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ORIGINAL: ENGLISH

COMMISSION ON SUSTAINABLE DEVELOPMENT
Ad Hoc Intergovernmental Panel on Forests
Third session
Geneva, 9-20 September 1996
Item 1 of the provisional agenda

ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS

Provisional agenda

1. Adoption of the agenda and other organizational matters.

2. Implementation of forest-related decisions of the United Nations Conference on Environment and Development at the national and international levels, including an examination of sectoral and cross-sectoral linkages.

3. International cooperation in financial assistance and technology transfer.

4. Scientific research, forest assessment and development of criteria and indicators for sustainable forest management.

5. Trade and environment in relation to forest products and services.

6. International organizations and multilateral institutions and instruments, including appropriate legal mechanisms.

7. Other matters.

8. Adoption of the report of the Panel on its third session.

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Annotations

1. Adoption of the agenda and other organizational matters

Rule 7 of the rules of procedure of the functional commissions of the Economic and Social Council provides that the Ad Hoc Intergovernmental Panel on Forests shall, at the beginning of each session, adopt the agenda for that session on the basis of the provisional agenda.

At its first session, the Panel decided that the agendas of its forthcoming meetings should include all the issues in its programme of work in order to allow for their consideration in a balanced and integrated manner. At the same time, the Panel felt that certain issues should be dealt with in depth at particular future sessions. In this regard, the Panel decided at its second session that programme elements that were substantively discussed at that session would remain open and that it would begin negotiations on those elements at its third session.

Also at its first session, the Panel agreed on the need to allocate to not more than two in-session working groups the business to be considered at its second and probably third sessions. Each working group was to be chaired by one of the co-chairmen of the Panel, who would propose specific arrangements in consultation with all interested delegations.

At its second session, the Panel decided that, during its third session, it would establish two in-session working groups, which would meet simultaneously.

2. Implementation of forest-related decisions of the United Nations Conference on Environment and Development at the national and international levels, including an examination of sectoral and cross-sectoral linkages

At its first session, the Panel decided that, at its third session, programme elements I.1 and I.3 would be subject to substantive discussion. The Panel also decided that negotiations on programme elements I.2, I.4 and I.5, which were discussed substantively at its second session, would start at its third session, on the basis of progress reports.

Documentation

Report of the Secretary-General on programme element I.1
(E/CN.17/IPF/1996/14)

Report of the Secretary-General on programme element I.2
(E/CN.17/IPF/1996/15)

Report of the Secretary-General on programme element I.3
(E/CN.17/IPF/1996/16)

Report of the Secretary-General on programme element I.4
(E/CN.17/IPF/1996/17)

Report of the Secretary-General on programme element I.5
(E/CN.17/IPF/1996/18)

3. International cooperation in financial assistance and technology transfer

At its first session, the Panel decided that programme element II would be subject to substantive discussion at its second session, and to further substantive discussion at its third session.

Documentation

Report of the Secretary-General on programme element II
(E/CN.17/IPF/1996/19)

4. Scientific research, forest assessment and development of criteria and indicators for sustainable forest management

At its first session, the Panel decided that programme elements III.1 (a) and III.1 (b) would be discussed substantively at its second session, and would be subject to further substantive discussion at its third session.

Also at its first session, the Panel decided that programme element III.2 would be discussed initially at its second session and be subject to substantive discussion at its third session.

Documentation

Report of the Secretary-General on programme element III.1 (a)
(E/CN.17/IPF/1996/20)

Report of the Secretary-General on programme element III.1 (b)
(E/CN.17/IPF/1996/23)

Report of the Secretary-General on programme element III.2
(E/CN.17/IPF/1996/21)

5. Trade and environment in relation to forest products and services

At its first session, the Panel decided that programme element IV would be discussed initially at its second session and substantively at its third session.

Documentation

Report of the Secretary-General on programme element IV
(E/CN.17/IPF/1996/22)

6. International organizations and multilateral institutions and instruments, including appropriate legal mechanisms

At its first session, the Panel decided that programme element V.1 would be discussed initially at its second session and would be subject to substantive

discussion at its third session. It also decided that programme element V.2 would be subject to initial discussion at its third session.

Documentation

Report of the Secretary-General on programme element V.1 (E/CN.17/IPF/1996/23)

Report of the Secretary-General on programme element V.2 (E/CN.17/IPF/1996/24)

7. Other matters

8. Adoption of the report of the Panel on its third session

By its decision 1995/226, the Economic and Social Council decided, upon the recommendation of the Commission on Sustainable Development, to approve the establishment of an open-ended ad hoc intergovernmental panel on forests. The Panel is to pursue consensus and formulate coordinated proposals for action towards the management, conservation and sustainable development of all types of forests. It is expected to present its final conclusions and policy recommendations to the Commission at its fifth session, in 1997.

Annex

PROPOSED ORGANIZATION OF WORK

The proposed organization of work for the third session of the Panel has been drawn up on the basis of the decisions taken by the Panel at its second session and on informal consultations conducted by the co-chairmen.

Week of 9-13 September 1996

Monday, 9 September

PLENARY

a.m.		Opening of the session
	Item 1	Adoption of the agenda and other organizational matters
		General discussion

WORKING GROUP I

p.m.	Item 2	Programme element I.1 Substantive discussion

WORKING GROUP II

p.m.	Item 3	Programme element II Substantive discussion

Tuesday, 10 September

WORKING GROUP I

a.m. and p.m.	Item 2	Programme elements I.1 and I.3 Substantive discussion

WORKING GROUP II

a.m. and p.m.	Item 3	Programme element II (continued)

Wednesday, 11 September

WORKING GROUP I

a.m.	Item 4	Programme element III.1 (a) Substantive discussion
p.m.	Item 4	Programme element III.1 (b) Substantive discussion

WORKING GROUP II

a.m.	Item 3	Programme element II (continued)
p.m.	Item 5	Programme element IV Substantive discussion

Thursday, 12 September

WORKING GROUP I

a.m.	Item 4	Programme element III.2 Substantive discussion
p.m.	Item 2	Programme elements I.2, I.4 and I.5 Substantive discussion

WORKING GROUP II

a.m. and p.m.	Item 5	Programme element IV (continued)

Friday, 13 September

WORKING GROUP I

a.m. and p.m.	Item 2	Programme elements I.2, I.4 and I.5 (continued)

WORKING GROUP II

a.m. and p.m.	Item 6	Programme element V.1 Substantive discussion Programme element V.2 Initial discussion

Week of 16-20 September 1996

Monday, 16 September

WORKING GROUP I

a.m. and p.m.	Item 2	Programme elements I.1 to I.5 (continued)

WORKING GROUP II

a.m. and p.m.	Item 3	Programme element II (continued)

Tuesday, 17 September

WORKING GROUP I

a.m.	Item 2	Programme elements I.1 to I.5 (continued)
p.m.	Item 4	Programme elements III.1 (a) and (b) and III.2 (continued)

WORKING GROUP II

a.m.	Item 3	Programme element II (continued)
p.m.	Item 5	Programme element IV (continued)

Wednesday, 18 September

WORKING GROUP I

a.m.	Item 2	Programme elements I.1 to I.5 (continued)
p.m.	Item 4	Programme elements III.1 (a) and (b) and III.2 (continued)

WORKING GROUP II

a.m. and p.m.	Item 5	Programme element IV (continued)

Thursday, 19 September

WORKING GROUP I

a.m. and p.m.	Item 4	Programme elements III.1 (a) and (b) and III.2 (continued)

WORKING GROUP II

a.m. and p.m.	Item 6	Programme elements V.1 and V.2 (continued)

Friday, 20 September

WORKING GROUP I

a.m.	Item 4	Programme elements III.1 (a) and (b) and III.2 (continued)

WORKING GROUP II

a.m.	Item 6	Programme elements V.1 and V.2 (continued)

PLENARY

p.m.	Item 7	Other matters
	Item 8	Adoption of the report of the Panel on its third session

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16 August 1996

ORIGINAL: ENGLISH

COMMISSION ON SUSTAINABLE DEVELOPMENT
Ad Hoc Intergovernmental Panel on Forests
Third session
9-20 September 1996
Item 2 of the provisional agenda

IMPLEMENTATION OF FOREST-RELATED DECISIONS OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT AT THE NATIONAL AND INTERNATIONAL LEVELS, INCLUDING AN EXAMINATION OF SECTORAL AND CROSS-SECTORAL LINKAGES

Programme Element I.1: Progress in national forest and land-use plans

Report of the Secretary-General

SUMMARY

An analysis of the approaches used by countries in different regions to programme and implement the conservation, management and sustainable development of all types of forests shows that significant progress has been made in both developed and developing countries in adopting new policies and strategies and in preparing plans and programmes of action. However, the concrete application of those policies, strategies, plans and programmes is facing a series of obstacles which need to be overcome. The obstacles appear at both national and global levels and can be grouped into four categories: Policy and institutional reforms, Investment programming and funding, Capacity-building, and International cooperation.

At the national level, actions to be considered to overcome these obstacles depend on the political, social and economic situation of each country. However, some key actions should be considered by all countries, such as decentralization of operational planning and implementation; establishment of intersectoral coordination and consultation; true involvement of interested parties at all levels, in particular indigenous people, local communities and women; redefinition of the role of the public sector and private institutions; development of incentive systems; provision of access to

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training and education opportunities for all actors; establishment of a strong national leadership for donor coordination, when necessary; and simplification of administrative procedures and bureaucracy.

At the global level, actions to be considered for supporting the efforts of countries include harmonization of international agreements; enhancement of cooperation between international institutions; mobilization, reinforcement and better utilization of international assistance and private-sector financing; establishment of innovative partnership mechanisms; and respect for national leadership.

The document proposes that, in order to advance the agenda on this programme element, the Panel endorse the concept and basic principles of national forest programmes. The Panel may also wish to consider the following four themes for addressing obstacles to the implementation of national forest programmes: sectoral planning, policies and institutions; investment programming; national capacity-building; and international cooperation.

Finally, the necessity of a global consensus for the promotion, improvement and support of national forest programmes is stressed, and it is suggested that the Panel consider institutional options for reinforcing the efficiency of international cooperation and collaboration.

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INTRODUCTION

1. The present document reports on the implementation of decisions of the Commission on Sustainable Development relating to programme element I.1 of the work programme of the Ad Hoc Intergovernmental Panel on Forests (IPF), Implementation of the United Nations Conference on Environment and Development decisions related to forests at the national and international levels, including an examination of sectoral and cross-sectoral linkages. It reports on progress being made through national forests and land-use plans and programmes, taking into account discussions held in previous sessions of IPF and other relevant national, regional and international forums.

2. The work under this programme element is guided by chapter 11 of Agenda 21, 1/ the Non-legally Binding Authoritative Statements of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles), 2/ and the decisions taken by the Commission on Sustainable Development 3/ at its third session and further elaborated by IPF at its first and second sessions (E/CN.17/IPF/1995/3 and E/CN.17/IPF/1996/24).

3. The Commission defined programme element I.1 as a need to consider "actions to promote progress through national forests and land-use plans and programmes in implementing the Forest Principles, and chapter 11 and other chapters related to forests in Agenda 21, through an open, transparent and participatory process involving Governments and all interested parties, including major groups, particularly indigenous people and local communities". 4/

4. Subsequently the Panel, at its first session, emphasized that the preparatory work should be "based on the provisions of the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests, and would benefit from consideration of regional initiatives and regional dimensions. The preparatory work should include the preparation of a report on all types of forests, presenting an overview of current approaches to national strategies, including links between national forest plans and sustainable development strategies/plans, and land-use plans, including ecosystem management aspects, and sectoral plans; and a synthesis of lessons learned, including lessons learned from participatory forest management approaches at the national and field levels. The preparatory work should also include a report on an assessment of progress made in implementing national forest and integrated land-use plans and should identify gaps in need of further attention. It should also focus on improved cooperation and implementation by national Governments of bilateral and multilateral forest-related planning activities and programmes, and the use of national-level participatory approaches to that end." 5/ The Panel also decided to schedule programme element I.1 for initial discussion at its second session (Geneva, 11-22 March 1996), and for substantive discussion at its third session (Geneva, 9-20 September 1996).

5. The present report was prepared by the Food and Agriculture Organization of the United Nations (FAO), as lead agency for programme element I.1, in consultation with the secretariat of the Ad Hoc Intergovernmental Panel on

Forests in the Division of Sustainable Development of the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat. It also benefited from the Expert Meeting on Financial Mechanisms and Sources of Finance for Sustainable Forestry (Pretoria, 4-7 June 1996), co-sponsored by Denmark, South Africa and the United Nations Development Programme (UNDP) and attended by 29 developing and 11 developed countries; the Expert Consultation on Implementing the Forest Principles: Promotion of National Forest and Land-use Programmes (Feldafing, Germany, 16-21 June 1996), sponsored by Germany and attended by experts from 31 developing and 36 developed countries; and the FAO regional forestry commissions and the Forest Advisors Group (FAG). It takes into consideration paragraph 13 of the statement on biological diversity and forests from the Convention on Biological Diversity to the Intergovernmental Panel on Forests (UNEP/CBD/COP/2/19).

6. Subsequent IPF deliberations on this topic will benefit from the outcome of an expert meeting on sustainable forestry and land use, co-sponsored by Sweden and Uganda and to be held in Stockholm in October 1996; and a seminar on the implementation of sustainable forest management at the regional and local levels, co-sponsored by Japan, Canada and FAO, to be held in Tokyo in November 1996.

7. The present document builds upon the Secretary-General's report to IPF at its second session (E/CN.17/IPF/1996/8) and the outcome of its discussions at that session (E/CN.17/1996/24) and, based on the Panel's observations and on a broader situation analysis of ongoing planning frameworks adopted in the different regions, presents more consolidated proposals on basic principles of national forest programmes applicable to all types of forests for the Panel's consideration.

I. OUTCOME OF DISCUSSIONS HELD BY THE PANEL AT ITS SECOND SESSION

8. During deliberations at its second session, the Panel considered national forest programmes as the main tool for planning and implementing forest-related activities and noted that considerable efforts had been directed towards planning and policy reforms in all regions, particularly in developing countries. The quantity and quality of national, regional and international initiatives relating to forests were viewed as testimony of Governments' commitment to the conservation, management and sustainable development of forests.

9. While acknowledging the difficulties faced by many developing countries in their efforts to comply with the demands of the several internationally recognized sectoral planning frameworks directly or indirectly relating to forests, the Panel stressed the importance of "planning" for addressing the complex issue of the sustainability of forest resources.

10. The term "national forest programme" was understood to be a generic expression for a wide range of approaches to the process of planning, programming and implementing forest activities in countries, comprising both the planning of forest-sector activities, including the formulation of policies,

strategies and action plans, and their implementation, including monitoring and evaluation.

11. It was also recognized that there was need for a more participatory, integrated and cross-sectoral approach to forest planning and implementation, taking into account the needs and requirements of all interested parties and the policies and actions being promoted by other sectors, particularly those relating to often conflicting alternative land use.

12. Special emphasis was given to the fact that national Governments should decide on the most appropriate planning framework for addressing sustainable forest management and development. That approach was more likely to result in a stronger sense of ownership and political commitment by Governments and all participating partners.

13. The Panel recognized the importance of international cooperation for the management, conservation and sustainable development of forests, particularly in developing countries, in spite of the fact that it was each country's responsibility to develop policies that would create an enabling environment for private, bilateral and multilateral investments in the forest sector.

II. WORKING DEFINITIONS

14. As requested by the Panel at its second session, the terminology used in the present document has been analysed and modified so as to be consistent with that used in the Forest Principles 2/ and in chapter 11 of Agenda 21. 1/ It covers all forest types and utilization patterns in developing countries, developed countries and countries with economies in transition.

A. Forests and forest lands

15. Forests - whether natural, modified, or planted - are biotic communities characterized by a predominance of woody vegetation. They are found in all climatic zones (boreal, temperate, tropical and mountainous) and may take the form of closed canopy forests or of open canopy woodlands. They comprise all the components of the forest ecosystems and their natural resources.

16. Forest lands may be covered by forests or degraded - that is devoid of trees or not maintained in a sustainable manner.

17. Forests and forest lands should be viewed as one part of a complex variety of land uses, together with their human and societal relationships, and not as an independent biophysical entity.

B. Forest sector

18. The term "forest sector" refers to all the biological, ecological, social, economical, cultural and religious dimensions of trees and forests. It includes not only the components of the forest ecosystems - either natural or artificial,

including single trees or rows of trees in rural areas - but also the human activities relating to the existence and utilization of those ecosystems and trees and the human beings, actors and/or beneficiaries of those activities, particularly those who live in and around the forests.

C. Planning, strategy, policy

19. These three terms refer to long-term processes. Planning is the systematic process of examining the future and defining policies, strategies and actions to achieve goals. A strategy is a broad course of action, chosen from among alternatives to attempt to achieve clearly defined goals. A policy is a course of action adopted and pursued by a Government, political party, community or the private sector, according to desired social and economic objectives.

1. Strategic forest-sector planning

20. Strategic forest, or forest-sector, planning is a continuous process of taking decisions and actions about alternative ways of conserving and using trees and forests, with the intent of achieving specific goals in the medium and long term. It is a way to visualize and define actions to expand the flow of social, cultural, economic and environmental benefits from trees, forests and wooded lands. It is a complex and dynamic iterative process of proposing, testing, evaluating and learning. It can be viewed as a regulatory structure effecting changes in a desired direction, considered as progress. The Forest Principles represent an internationally accepted set of guidelines for recommended changes.

21. A forest, or forest-sector, plan is the main result of the forest-sector planning process. Forest-sector plans are usually prepared for an entire country and are therefore referred to as national forest plans. Countries also devise forest-sector plans at the subnational level (state, province, region) and even at the local level (district, commune, village). A plan can exist on one of three levels:

(a) A normative level, linked to the goal or mission. A plan prepared only at this level is often referred to as a policy;

(b) A strategic level, action-oriented and meant to provoke change. A plan at this level is often referred to as a strategy;

(c) An operational level, which entails programming or actions required to implement the strategy. This level is referred to as a plan, or programme, of action.

2. Operational planning

22. Operational planning is a process of decision-making (and action) concerned with the programming in time and space of a series of activities, with a view to addressing a specific issue or set of issues or solving problems. Whereas

strategic planning is mainly concerned with policy directions, operational planning is about the details of implementation. It is usually short-term, as opposed to strategic planning, which is medium-to-long term.

3. Decentralized planning

23. Decentralized planning is a process of empowering subnational and local-level authorities/institutions in the decision-making and implementation processes. It involves both a greater level of autonomy and strong interdependent links with other institutions of the same level and with central-level institutions. Two main virtues of decentralized planning are that it empowers subnational institutions with their own improvement goals and it allows them to take advantage of their special priorities, capabilities and forest conditions.

4. Participatory planning

24. Through participatory planning, all concerned actors will be invited to participate in the decision-making process and in the implementation of the actions jointly decided upon. The actors will normally include different governmental sectors, particularly those that are closely related to the forest sector, governmental institutions at the subnational and local levels, the private sector, community-based organizations and non-governmental organizations.

D. National forest programmes

25. The term "national forest programme" is understood to be a generic expression for a wide range of approaches to the process of planning, programming and implementing forest activities in countries. National forest programmes comprise both the planning of forest-sector activities, including the formulation of policies, strategies and action plans, and their implementation, including monitoring and evaluation.

26. In many countries, the words "programme" and "plan" are used interchangeably, and "strategy", "forest strategy" or "national strategy" may be used to designate a process similar to that of national forest programmes. In the present report, the expression "national forest programme" is used to designate the process used by a country to deal with forest issues, including the planning and implementation of forest and forest-related activities. The expression "national forest plan" refers to the results of the planning process.

27. The purpose of national forest programmes is to establish a workable social and political framework for forest conservation, management and sustainable development. National forest programmes are part of a political process in the sense that orientations and decisions are the outcome of debates, negotiations, controversies and compromises on the part of all interested actors, often with different opinions on what should be the appropriate policy and course of action. It is important to make a clear distinction between national forest

programmes as part of a process and some of the results of the process, which are specific policy statements, strategies, or programmes (or plans) of action.

E. Forest and land uses

1. Integrated land management

28. Integrated land management is a logical sequence of procedures that identify needs in terms of human and environmental requirements, develop possible land-use options and suggest the combination of options that would optimize achievement of those requirements on a sustainable and long-term basis. It is the subject of chapter 10 of Agenda 21. 2/

2. Land-use planning

29. Land-use planning deals with the nature and the value of land and how they determine its sustainability for different purposes. Land-use planning takes place at different levels and scales, from global to local. It stipulates the advantages and disadvantages of imposing a specific use on a particular unit of land, based upon physical, economic and social criteria. Land-use planning is a tool for integrated land management. It recognizes the multiple uses of a given landscape and the close interface between forests and other sectors - for example, agriculture.

3. National forest and land-use plans

30. The phrase "national forest and land-use plans" was chosen by the Commission in reference to chapter 11 of Agenda 21, which requests Governments "to prepare and implement, as appropriate, national forestry action programmes and/or plans for the management, conservation and sustainable development of forests" which "should be integrated with other land uses". 6/ In addition, Governments should review and, if necessary, revise "measures and programmes relevant to all types of forests and vegetation, inclusive of other related lands and forest-based resources", relate them to other land uses and development policies and legislation, and promote "adequate legislation and other measures as a basis against uncontrolled conversion (of forests) to other types of land uses". 7/ This term recognizes that forests have a cross-sectoral dimension and that planning for forest land cannot be undertaken effectively without consideration of competitive uses.

31. The generic expression "national forest programmes" includes reference to land-use planning and integrated land management. Therefore, it is suggested that the Panel use "national forest programmes" instead of "national forest and land-use plans".

32. At the local level (village or community level, district level), sustainable development entails many aims and objectives, such as eliminating poverty and raising living standards, increasing food production, improving the quality of human settlements, halting the spread of desertification, preventing

deforestation, preserving biodiversity and managing existing forests. Each gives rise to different and often competing programmes, with different objectives, institutional responsibilities and budgets and vested interests at the national and international levels. Therefore at the local level, a national forest programme must be considered a component of an integrated development programme; at the national level, a national forest programme must be considered an integral component of the national sustainable development strategy/plan.

III. FUTURE CHALLENGES

33. The success of a national forest programme depends on the given country's capacity to overcome a series of obstacles, which can be grouped into the four categories discussed below.

A. Policy and institutional reforms

34. Countries should be able to identify and correct policies that have negative effects on the sustainability of forests. Such policies are often external to the forest sector and are mostly related to:

(a) Inappropriate taxes, subsidies and pricing practices for alternative land-use activities which result in harmful externalities such as deforestation and/or loss of biodiversity;

(b) The land tenure system, physical infrastructure and/or other factors that can affect investments in the forest sector;

(c) Undervaluation of forests, cost internalization and the possibility of reinvestment of revenues in forest management.

35. Existing policies should allow for transparency and full participation of all interested parties in both developed and developing countries. This will enable countries better to identify their priorities by properly addressing the question, Trees and forests for whom and for what? through appropriate strategies which enable them to seek the views of all concerned groups and individuals that would otherwise be underrepresented.

36. In many countries, the difficulty encountered lies more in inconsistency or lack of implementation than in the non-existence of good policies. Therefore, the enforcement of legislation and application of policy guidelines through appropriate means are of paramount importance for sustainable forest development.

37. In some circumstances the reorganization of governmental structures is necessary. The reforms should cover a redefinition of roles, functions and human resource needs, among others.

B. Investment programming and funding

1. Decentralized planning and programming

38. Decentralized planning and programming is now generally recognized to be the main approach for promoting sustainable forest management and development at the national level. For its effectiveness, the approach includes:

(a) Use of clearly defined administrative units (e.g., districts, provinces or regions of a country) as the basis for the programme design;

(b) Use of participatory rural appraisal and/or other bottom-up planning tools to define local problems, priorities and opportunities, as experienced by the local people, and drawing upon local knowledge and technologies to identify the most appropriate solutions;

(c) Use of intersectoral need-based interventions. This implies that intersectoral cooperation and coordination are promoted at the local level in all matters related to natural resource management (soil conservation, forestry, agriculture, animal husbandry, etc.);

(d) Designing programmes as demand-driven processes which recognize that local priorities and constraints change. Emphasis is placed on participatory monitoring of the results of actions taken and on making use of, or setting up, local representative structures to discuss and agree on objectives, strategies and actions;

(e) Finding simple and innovative ways to deliver financial incentives or in-kind contributions to individual producers (e.g., through community-based organizations, producers' associations, non-governmental organizations, foundations, local banks), and designing self-financing structures at the national and local levels (e.g., revolving funds).

2. Investment and funding

39. Governments very often implement part of the investment programme through State enterprises and administrations (e.g., forestry education and training, research). Special focus on improving conditions for investments by private enterprises, local communities and individuals is essential. This can be accomplished by removing constraints and disincentives through policy reforms and by introducing appropriate incentives through a decentralized investment programme. The incentive system should reflect the different time perspectives of the individual and the society and the value which is given by the society to the various benefits of forests, and not only the commercial benefits.

40. Incentives can be delivered through either national or local arrangements or a combination of the two, depending on what is feasible in a particular country. To be efficient and effective, the systems must be administratively simple, facilitate coordination of the financial and technical contributions from various sources and ensure that the structures do not absorb a disproportionate share of funds.

41. National funding and external funding should be secured through budgeting and partnership agreements. When many donors are involved, agreements should be collective rather than individual, and legal aspects should be analysed and envisaged. Where conditions permit, donors and financing institutions should participate in the financing of forestry development funds which combine financing from various national and international sources, either at the central or local level. The main implications of this approach for financing agencies would be:

(a) The use of local administrative units as a basis for designing supported programmes;

(b) Flexible programme design where individual programme components (training, funds for local development, contracting, institutional strengthening etc.) can be added and/or removed, based on actual demand;

(c) Increasing reliance on local resources, both material and human, including indigenous people, in programme implementation;

(d) The use of participatory structures for programme management and the definition of transparent mechanisms for the control of funds at local level.

42. The emphasis on decentralized funding structures would contribute to successful implementation.

C. Capacity-building

43. Capacity-building should be based on a clear definition of the roles and mandates of public-sector institutions, the private sector and people's associations. Priority areas of action should be identified for capacity-building and the overall framework for providing assistance established.

44. In addition to traditional capacity-building (e.g. training, education, research, development of management systems), measures should be taken on three key issues:

(a) Establishing the conditions which enable public-sector institutions to achieve and maintain high ethical standards and attract competent individuals (e.g., financial autonomy of forestry institutions, retention of a percentage of stumpage fees, and royalties for salary supplements and other staff incentives);

(b) Developing adequate skills and administrative procedures for managing and supervising the implementation of forest programmes by the private sector and local communities. These skills would include managing funds, conducting competitive bidding, assessing economic and natural resources and monitoring the results of implementation;

(c) Developing information systems (e.g., land-use, forest resource and biodiversity inventories, monitoring trade in forest products, monitoring timber harvesting and revenue collection) to form the basis for assessing the effectiveness and efficiency of the existing policies and policy instruments.

45. For the private sector, non-governmental organizations and community-based organizations, whose role is increasing in the implementation of development activities, capacity-building would result in improved technical capacity and mechanisms for their participation and empowerment.

D. International cooperation

46. International cooperation should be considered at the national, regional and international levels. At the country level, the approach should be based on strong national leadership, making use of local organizations, administrative arrangements and human resources in implementing programmes and activities and thus strengthening them.

47. At the regional level, the focus should be on cooperation on common problems or on issues that are transboundary in nature. South/South cooperation, focusing mostly on exchange of information and transfer of technology, could also be very effectively addressed.

48. The international level should be used to harmonize international agreements, frameworks and initiatives that affect the forest sector and better to define the roles of international institutions.

IV. PROPOSALS FOR ACTION

49. Taking into account the understanding that emerged from discussions held on issues relating to programme element I.1 during the second session of the Panel and at national, regional and international meetings after the United Nations Conference on Environment and Development, including the expert meetings on financial mechanisms and on the Implementation of the Forest Principles (see para. 5), the Panel may wish to consider endorsing the elements of national forest programmes discussed below as applicable to all types of forests.

A. Concept and basic principles of national forest programmes

50. The Panel may wish to consider the adoption of the concept and principles outlined below, as a basis for the subsequent proposals.

1. Concept

51. The definition and the objective of a national forest programme are:

(a) Definition

52. The term "national forest programme" is a generic expression for a wide range of approaches to processes of planning, programming and implementing forest activities at the national and subnational levels.

(b) Objective

53. The goal of a national forest programme is to ensure the conservation, management and sustainable development of forests to meet local, national, regional and global needs and requirements, by fostering national and international partnerships for the benefit of present and future generations.

2. Basic principles

54. The principles of a national forest programme are as follows:

(a) National sovereignty and country leadership

55. National forest programmes are nationally led initiatives, for which the country should assume full leadership and responsibility.

(b) Partnership

56. National forest programmes strive to bring together all interested parties in a process for which they will feel concerned and committed. The strength of the partnership will depend on its ability to draw upon the specific capacities of individual partners.

(c) Participation

57. In a national forest programme, issues, options and the resulting policies, strategies and programmes are agreed upon through participatory decision-making and consensus-building among all interested partners. Transparency and sharing of information are essential for consensus-building.

(d) Holistic and intersectoral approach

58. In national forest programmes, forests should be treated as diverse ecosystems comprising many interdependent elements in dynamic equilibrium, producing a variety of goods and services. Forest dwellers are also a part of the ecosystem. Forestry, including tree-growing in rural areas, is practised within the context of sustainable land management, environmental stability and social and economic development.

(e) Long-term iterative process

59. A national forest programme is a cyclic process comprising planning, implementation, periodic assessment and evaluation. It is also an ongoing process which continuously reflects changes in the planning environment and the acquisition of new knowledge during the course of implementation. Concrete targets and timetables and periodic independent review and reporting are required.

(f) Capacity-building

60. Capacity-building is a fundamental element of a national forest programme. Throughout the process, actions are taken to develop the planning and implementation capacity of the national institutions and other key actors, with a view to decreasing dependence on external assistance.

(g) Policy and institutional reforms

61. A national forest programme ensures that the policy and institutional framework is conducive to sustainable forest development. Programmes must address policy and institutional issues in a comprehensive manner which recognizes the interdependencies and interlinkages among sectors.

(h) Consistency with the national policy framework and global initiatives

62. A national forest programme must be integrated with national sustainable development plans and with regional and local strategies. They should all be integrated in land-use planning at the national and local levels and in programmes that are broader in scope, such as environmental action plans and actions to implement Agenda 21 and related conventions and associated initiatives.

(i) Raising awareness

63. A national forest programme must raise the visibility of the forest sector and its priority in national agendas. The full value of forests, wooded lands and trees and their contribution to social, economic and environmental well-being at the local, national, regional and global levels must be recognized.

(j) National commitment

64. A national forest programme must be backed by a long-term commitment on the part of all national actors (governmental and non-governmental, including community-based institutions and/or organizations within the forest sector and other relevant sectors), particularly at the high political and decision-making levels.

(k) International commitment

65. A national forest programme will prove to be counter-productive if expectations raised during the planning process are not addressed. Long-term commitments from the international community and its institutions, from the planning to the implementation phase, respecting the policies, strategies and programmes approved by countries should be ensured.

B. Planning and implementation

66. Based on an analysis of existing constraints and opportunities and retaining the options that emerged from different forums, the following four

themes capture the essential elements for successful implementation of national forest programmes.

1. Sectoral planning, policies and institutions

67. Sectoral planning, policy revision and institutional reform should be considered periodic processes encompassing various stages. They should be country-driven, based on the sovereign right of each country to use its forest resources in accordance with its own policies and development needs. Comprehensive national forest strategies that are consistent with and integrated into macroeconomic planning and policy and take into account the strategic value of forests as a capital base for national sustainable development need to be developed in order to facilitate mobilizing funds for sustainable forest development from various sources.

(a) Establishment and improvement of strategic forest planning processes

68. Individual countries should establish or improve their strategic planning processes and use them as instruments to guide and orient the process of sectoral development, under strong national leadership. The process should build on national capacity and be based on the following characteristics, considering the situation of each country: well defined linkages to macro-level policies and policy processes; closely linked cross-sectoral policies and issues, particularly land-use policies; high-level political commitment and broad-based support; participatory and decentralized planning approaches, including the use of local knowledge; and identification and management of conflicts between relevant actors.

(b) National development and land-use policy and legislation

69. Countries should take all necessary measures, within the framework of their respective national laws, to ensure that forests are regarded as a national asset by all sectors and that the conservation and wise use of forests is treated as an integral part of development policy planning at all stages and at all levels.

70. Countries should review energy policies, in particular where there is considerable dependence on woodfuel, to ensure that supplies are restored, maintained and/or complemented by policies that promote alternative energy sources.

71. Countries should encourage the optimum use of land resources and take special care to minimize irreversible and unsustainable land-use changes, particularly in natural forest land. This could best be ensured through the harmonization of policies and legislation at all levels, considering issues such as forest ownership, land tenure etc.

72. Countries should review incentives for any activity that affects forests - direct incentives such as tax concessions, credits or grants, or indirect incentives such as provision of infrastructure - and should ensure that future

incentives are carefully designed to achieve sustained production of a range of products and services and their equitable distribution.

(c) Promotion of national forest policy formulation

73. National forest policy formulation should be encouraged and promoted in the context of national policy development. Countries should create and maintain appropriate coordinating mechanisms to review and formulate national policies and ensure that representatives from the whole range of sectors which use, convert or otherwise affect the state of forests take into account the following: an evaluation of all the benefits which forests can provide, the need to maintain biological diversity, and the needs and requirements of forest dwellers and local communities living in and around forests.

74. The regular updating of forest policy should be ensured, taking into account possible changes at the macroeconomic level and in policies in forest-related sectors, involving all interested partners.

(d) Revision of roles, mandates and institutional structures

75. Governments should consider initiating a review and, if needed, redefinition of the roles and mandates of the major forest-related actors, including administrations at the national, provincial and local levels, and the non-governmental sector (non-governmental organizations, community-based organizations and the private sector). The review should aim at focusing governmental functions on policy formulation, including legislation; the provision of administrative services; a definition of the roles and mandates of the different institutions at all levels; and supervision and control.

76. Other functions, including productive activities, monitoring and evaluation, technical services, research, and coordination of local-level activities, could be shared with or delegated to the non-governmental sector.

77. The non-governmental sector should also focus on the promotion of institutional structures through capacity-building, including workers and infrastructure, in order to enable them to be active partners in the implementation of sustainable forest development.

(e) Establishment and/or consolidation of national coordination

78. Governments should consider establishing a national body responsible for intersectoral coordination relating to forest-sector activities. Such a body should involve the relevant national actors in the formulation, implementation and evaluation of the programme, avoid duplication of programmes, ensure the consistency of national, provincial and local actions, and ensure the effective coordination of the international involvement in the sector.

79. In addition, the coordination mechanism could function as an instrument to reflect the commitments between the national and international levels by promoting transparent dialogue between the actors.

2. Investment programming

80. Investment for the management, conservation and sustainable development of forests needs both public and private funds and requires long-term commitment.

(a) Strategic planning and investments

81. The development of strategies for the management, conservation and sustainable development of forests includes the identification of a wide range of funding sources, both public and private, domestic and foreign. The strategies can draw upon the principles outlined in the statement of the Expert Meeting on Financial Mechanisms (see para. 5) and the Panel's discussions under the relevant item. Countries could be invited to share their experiences on the schemes of forest-related economic indicators to promote investment and improved resource valuation and revenue collection. This procedure would lead to the identification of the most appropriate funding sources.

(b) Domestic public funding

82. Considering the importance of domestic funding, public budget allocation should reflect the national priority given to the conservation, management and sustainable development of forests. This can be achieved by securing appropriate valuation of forest resources, including payments for the ecological services of forests and the incorporation of externalities. An efficient revenue system is fundamental and should ensure that a sufficient part of forest revenues are reinvested into the forest sector. Public funding should create an environment that promotes investments in every step of the value chain (from forest development to primary and secondary processing and distribution) in order to retain added value from forest resources in the countries.

(c) Private funding

83. Macroeconomic stability, proper policy and regulatory frameworks and an established land-tenure system can attract responsible private investment. Forest strategies should identify and provide information on opportunities for private-sector investment. Appropriate incentives might include covering transaction costs, offsetting market development risks, compensation for the incorporation of externalities, guarantee schemes etc. Through market-based instruments, sustainable practices benefiting the poor and providing alternatives for them should be rewarded, and unsustainable practices discouraged.

(d) New and additional financial resources

84. The potential of mechanisms generating new and additional financial resources should be fully explored, so as to integrate the resources into comprehensive national programmes.

(e) Official development assistance

85. Official development assistance should be used in a complementary way to supplement national public funding, providing substantial support, in particular

for capacity-building, technology transfer and catalysing other sources of financing.

3. National capacity-building

86. Before embarking on a capacity-building programme, countries should assess their existing capabilities at all levels to prepare, implement and monitor the conservation, management and sustainable development of their forests. Priorities for strengthening existing institutions or building new institutions or infrastructure should be based on the assessment. It should be iterative (periodically repeated and updated) and participatory (involving key local, national and international actors). In addition, gender issues should be considered in all capacity-building programmes.

(a) Human resource development

87. The development of human resources should focus specifically on the following issues: reorienting and/or strengthening of existing training institutions taking a multidisciplinary approach; establishing new research, development and training institutions only where deficiencies exist; establishing systems for the assessment of the labour force and training needs; reviewing the curricula of training institutions according to the results of the needs assessment; reallocating the labour force according to optimal deployment.

88. In addition, national Governments should put in place an appropriate remuneration, welfare and incentive system in order to retain manpower and improve efficiency.

(b) Strengthening local institutions and organizations

89. More capacity-building should be directed to local levels, focusing on assessing existing (local) knowledge to improve its utilization, the developing mechanisms for the optimal use of existing institutions and organizations at local levels, facilitating the formal and informal capacity-building activities of local institutions, non-governmental organizations and community groups through a decentralized approach, and developing and intensifying retraining systems for civil servants and others working at the local level, to promote interaction with the local actors.

(c) Institutional development

90. The focus of institutional development should be on the establishment of administrative and accountability systems, including financial management systems, that emphasize participatory management.

91. Institutions related to research, extension and forest administration often need to be strengthened, taking a cross-sectoral approach and promoting networking through North/South as well as South/South cooperation and information exchange. Training in policy research, conflict resolution and mediation techniques should be enhanced and incorporated in the curricula.

(d) Development of improved approaches to external assistance

92. Harmonization and coordination in donor programmes is often lacking, and the lack usually leads to the creation of parallel organizations and the irrational use of funds and labour.

93. The development of improved approaches should focus specifically on establishing long-term donor commitments to assist in capacity-building, based on a national interinstitutional mechanism for monitoring changes in the forestry sector, and respect for the national priorities and use of national/local expertise, when possible,

4. International cooperation

(a) Regional level

94. Countries enjoy significant advantages when they take coordinated regional positions in international forums and use regional mechanisms to support national processes. In both cases regional action must derive from each country's assessment of its needs and the ability of the region to act effectively in its support. This means that regional approaches should not be developed in a political vacuum or imposed by external institutions. The point of departure should always be national requirements.

95. It is suggested that regional approaches would be most effective in the following initiatives: development of scientific and technical institutions to take advantage of economies of scale, the exchange of experiences and technology on the policies, strategies and actions related to the implementation of national forest programmes, the establishment of transboundary programmes involving the pooling of national efforts to tackle common concerns, as a forum for resolving other practical problems of the region, and participation in international forums and processes, where national positions shared by countries can be presented in a coordinated way.

(b) Global level

96. Considering the increased complexity of forest issues and the interactions between countries (trade, climate change, biodiversity conservation, evolution of human settlements), a permanent international dialogue should be maintained. In addition national forest programmes, which are considered to be appropriate tools for achieving the conservation, management and sustainable development of all kinds of forests, should be internationally promoted and supported.

(c) Promotion and improvement of the concept of national forest programmes

97. A reference document on national forest programmes should be finalized through a participatory process involving all interested parties (international organizations, national institutions and agencies, research institutes, non-governmental organizations, local people, representatives and the private sector). The document should be based on the existing basic principles and operational guidelines for national forest programmes (prepared by FAO in

March 1996) the results of Government-sponsored meeting (see paras. 5 and 6) and the results of discussions in the Panel.

98. The concept of national forest programmes should be considered as iterative and in permanent evolution in order to be fully efficient and adapted to changing economic, social and political situations. Regular consultations in appropriate forums should be organized for developing approaches to putting national forest programmes into operation; identifying the implication of changes in macroeconomic policies (structural adjustment programmes, liberalization and privatization of the economy, land allotment to the private sector etc.); addressing the interaction between forestry and agriculture development in the context of land-use systems and land evaluation; developing strategies for the involvement of local groups of users of the forest in its conservation, management and sustainable development and incorporating them into national forest programmes; transferring technology and streamlining financial mechanisms, using their respective advantages; and developing additional mechanisms for implementing national forest programmes, such as partnership agreements.

C. International consultations on forests

1. Establishment of a consultative body

99. A consultative body for international support for national forest programmes was approved, after considerable international negotiation, by the FAO Council in June 1993 but has not yet been convened. The body would cover specifically the promotion of an international dialogue in support for processes leading to national forest programmes. According full respect to national sovereignty, sustainable development objectives and the provisions of the Forest Principles, the consultative body could address problems by serving as a forum through which countries could raise their concerns and where interested parties could identify difficulties and suggest solutions in implementing national forest programmes and as a clearing-house for identification of critical problems being encountered; review progress and, based on available information and periodic reviews, assess the impact of national forest programmes on the implementation of the Forest Principles and the chapters of Agenda 21 relating to forests; encourage transparency and the dissemination of publicly available information on the results of national forest programmes, experiences and "best practice"; assess the adequacy of funding needs and sources, call the attention to funding needs and resources and, if those resources are judged inadequate, recommend feasible financial mechanisms to stimulate and augment the flow of international resources; promote international cooperation by: identifying overall priorities for international cooperation to promote, improve and implement national forest programmes; promoting awareness of experiences and lessons learned from different approaches, and promoting responses to requests from countries in need of attention/support on specific issues.

2. Other institutional options

100. The institutional option proposed by the experts at the Consultation on Implementing the Forest Principles (see para. 5), relates to programme element V.1. However, in view of its importance for the efficiency of national forest programmes, the Panel may also wish to consider it under programme element I.1. The experts proposed that a new forum for international consultation on forests should be established, based on the experience of the Panel. The forum, with an expanded mandate, might also be used for dealing with action on issues raised in other programme elements. It would promote international support for the national forest programme process. It should be a consultative body, whose work is supported by technical and scientific advice. It should establish collaborative leadership but not seek to coordinate national processes. It should ensure that all actors, including non-governmental organizations and the private sector, are integrated into the process.

Notes

1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigenda), resolution 1, annex II.

2/ Ibid., annex III.

3/ Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32).

4/ Ibid., chap. II, sect. D (5), annex I, chap. III (I), para. 1.

5/ E/CN.17/IPF/1995/3, para. 18 (I.1).

6/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigenda), resolution 1, annex II, chap. 11, para. 11.12 (a).

7/ Ibid., para. 11.3 (c).

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IMPLEMENTATION OF FOREST-RELATED DECISIONS OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT AT THE NATIONAL AND INTERNATIONAL LEVELS, INCLUDING AN EXAMINATION OF SECTORAL AND CROSS-SECTORAL LINKAGES

Programme element I.2: Underlying causes of deforestation and forest degradation

Progress report of the Secretary-General

SUMMARY

As requested by the Ad Hoc Intergovernmental Panel on Forests at its second session (see document E/CN.17/1996/24), the present progress report has been prepared for the purpose of further guiding substantive discussion of programme element I.2, entitled "Underlying causes of deforestation and forest degradation", of the programme of work of the Panel.

Deforestation and forest degradation constitute a serious problem in many countries. Evidence accumulated in the last decade has shown that it is preferable to address the underlying causes of deforestation by utilizing a focused approach that concentrates on reversing the damaging processes and promoting the most beneficial ones. It is possible to decide what changes are or are not harmful only against a background represented by a national policy framework for sustainable development and a national forest policy that jointly and consistently make the best possible judgement of optimum forest cover (how much, where and of what kind) in order to meet most effectively diverse needs for forest goods and services. Policies for forests (and trees outside forests) need to be consistent with such a national policy framework for sustainable development including overall economic, land-use, environment and development policies.

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This report represents a further step towards defining the usefulness of the diagnostic framework proposed in the report of the Secretary-General (E/CN.17/IPF/1996/2) presented for the consideration of the Panel at its second session. The present report recalls the discussions at the second session of the Panel; reviews briefly some additional actions taken since the second session of the Panel; focuses on how to use the diagnostic framework to assist developing and developed countries to identify the causes of deforestation and forest degradation; and concludes with a set of conclusions and proposals for action for discussion by the Panel.

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INTRODUCTION

1. The present progress report covers programme element I.2, entitled "Underlying causes of deforestation and forest degradation", of the programme of work of the Ad Hoc Intergovernmental Panel on Forests.

2. At its third session, the Commission on Sustainable Development defined programme element I.2 as consisting in the need to "identify and consider ways to address the underlying causes of deforestation, forest degradation and the difficulties in implementing sustainable forest management, with particular attention to cross-sectoral factors, including the impact on and from forests, at the national and international levels, such as consumption and production patterns, poverty, population growth, pollution, terms of trade, discriminatory trade practices and unsustainable policies related to sectors such as agriculture, energy and trade". 1/

3. The Panel, at its first session (see document E/CN.17/IPF/1995/3, para. 18), emphasized that preparation for the discussion of the issue would require the judicious consideration of an array of contributing factors, many of them of a cross-sectoral nature, and recommended that a report on the underlying causes and cross-sectoral influences on forest degradation and deforestation and on the difficulties of implementing sustainable forest management should be prepared, bringing together key work in the area and identifying gaps.

4. At its second session, the Panel discussed the report of the Secretary-General on this programme element (E/CN.17/IPF/1996/2), taking into account the relevant paragraphs of the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles) 2/ and chapter 11 of Agenda 21. 3/ The report presented to the Panel at its second session proposed a new, focused approach that concentrated on reversing the most damaging processes related to deforestation and forest degradation and promoting those measures that would be most beneficial. Furthermore, the report described the kind of changes that were affecting the quantity and quality of all types of forests; proposed ways to identify the causes of many detrimental changes; analysed why it was so difficult to implement sustainable forest management; and recommended ways to improve all these aspects. The report also highlighted the need to concentrate on maintaining or developing forests in appropriate places for the relevant reasons.

5. The Panel noted that the causes of deforestation and degradation were complex and could be different in different countries and circumstances. Some originated in different sectors of the national economy but others might be transboundary or international in nature. The Panel also noted the key role of this programme element in guiding, and serving as a basis for, action in respect of each of the other programme elements of its programme of work included in categories I through V.

6. This progress report, although it stands by itself, is based on the aforementioned document presented to the Panel at its second session (E/CN.17/IPF/1996/2) and should be regarded as its continuation but one focusing

particularly on the gaps and issues identified in discussion at the second session of the Panel. In this context, this report is a step forward in the definition of the diagnostic framework as a valuable management tool for identifying and addressing the underlying causes of deforestation and forest degradation. It should be noted that the report takes into consideration paragraphs 7, 10 and 13 of the Statement on Biological Diversity and Forests from the Convention on Biological Diversity to the Intergovernmental Panel on Forests (E/CN.17/IPF/1996/9, annex), as contained in the annex to decision II/9, entitled "Forests and biological diversity", adopted by the Second Meeting of the Conference of the Parties to the Convention on Biological Diversity, Jakarta, Indonesia, 6-17 November 1995.

7. This progress report was prepared jointly by the United Nations Development Programme (UNDP), and the secretariat of the Ad Hoc Intergovernmental Panel on Forests, Division for Sustainable Development of the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat. The report is based on a study prepared by the Overseas Development Administration of the Government of the United Kingdom of Great Britain and Northern Ireland.

8. Section I of this report recalls the main elements discussed by the Panel at its second session. Section II reviews briefly actions taken for addressing the underlying causes of deforestation and forest degradation. Section III elaborates further the concept of developing and using a diagnostic framework as a tool to assist developing and developed countries in identifying the causes of deforestation and forest degradation that are most significant to them. Section IV offers a set of conclusions and proposals for action for the consideration of the Panel.

I. DISCUSSION AT THE SECOND SESSION OF THE PANEL

9. The Panel at its second session emphasized that there were rational justifications for many changes in forest structure and cover and that deforestation need not necessarily be harmful if planned within the context of national policies for sustainable land use. Indeed, it might often be better to use the more neutral terms "replacement" and "modification" instead of "deforestation" and "forest degradation", as suggested in the report of the Secretary-General presented to the Panel at its second session.

10. The Panel noted the range of diverse factors that affected deforestation and forest degradation, and that these factors operated in different ways, at different scales and times, and in different places. Of particular concern to the Panel were social and economic issues including poverty, land tenure and property rights, and patterns of consumption and production. Land-use issues including unsustainable agricultural practices, grazing pressure, forest fires and the role of plantations and market-related factors were observed to operate in a number of ways and included undervaluation of wood and non-wood forest products, land markets and land speculation. Extrasectoral dimensions, including energy policies affecting the use of wood-based fuels, policies in other sectors and their impact on forest management, and conservation of biodiversity would be of particular importance. International policies including debt and structural adjustment, international trade and transboundary

pollution were also highlighted as being significant causes. Each of these factors would be of a different importance and exert different kinds of influences in countries at different times.

11. The Panel also noted that addressing underlying causes of deforestation and forest degradation required accurate and timely information on the full range of goods and services provided by forests to society, as well as the economic contribution of forests in the widest sense, and data on changes and modifications taking place in terms of both quantity and quality of forest cover. Such information would need to be supported, in some cases, by capacity-building and improved planning.

12. Participatory mechanisms and approaches were considered to be especially important in order to facilitate the planning process and to address underlying causes and to promote sustainable forest management. Improved donor coordination and international collaboration in programmes addressing deforestation and forest degradation were considered to be necessary. Promotion of adequate legislation and other measures, such as environmental impact assessments, might be required as a basis for action against uncontrolled conversion of forest to other types of land use. All these approaches should be employed to address and correct underlying causes of deforestation and forest degradation.

13. The Panel also discussed the central role of understanding the underlying causes of deforestation and forest degradation and regarded this as the basis for action in respect of each of the other programme elements of its programme of work. There are many cross-cutting issues that may be brought together in the analysis of causes, and in formulating policies and actions to combat unsustainable management and use of forests, and in identifying and implementing policies to enhance forest cover. The Panel also noted that there were a number of government-sponsored initiatives under way in support of this programme element, and that relevant activities might be undertaken under the United Nations Framework Convention on Climate Change, 4/ the Convention on Biological Diversity, 5/ and the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa. 6/

II. ADDRESSING UNDERLYING CAUSES

14. Some related issues have been addressed through different initiatives undertaken or completed since the second session of the Panel. These include the Norwegian initiative study on long-term trends and prospects in the supply and demand for wood products and possible implications for sustainable forest management. This study found that the demand for wood products, including fuelwood, would increase in future and that this was related to projected increases in human population and wealth. At the same time, it was expected that demands for other services of forests would also increase. For example, the study predicted increasing demand for recreation, wilderness and nature conservation, particularly in societies where wealth was increasing. It also noted that formal sector arable land requirements to the year 2016 might involve conversion of some 45 million hectares (ha) of forest in developing countries.

If subsistence farming and livestock farming do not move to more intensive and productive forms, it is expected that an additional 100-200 million ha of forests will be converted or degraded. This has broad implications for the future management of forests in terms of possibilities of raising productivity of forests; integrated land-use planning; and management of forests for multiple products and services.

15. Changing consumption and production patterns were addressed in a recent report of the Secretary-General (E/CN.17/1996/5 and Add.1) to the fourth session of the Commission on Sustainable Development which also highlighted a predicted increase in demand for wood and other forest products. A report prepared by the International Institute for Environment and Development (IIED) on the paper cycle again predicted increased global consumption of forest products, but emphasized the opportunities for improved efficiency and environmental sustainability.

16. None of these studies, however, examined explicit links among production, supply and consumption and deforestation or forest degradation in specific countries, but each examined instead global aggregate trends and predictions.

17. It should be noted that subjects related to (a) the forestry-specific ramifications of present consumption and production patterns in different parts of the world and (b) the international underlying causes of deforestation and forest degradation are extremely complex and difficult to deal with. However, both issues are specially relevant for this and other programme elements of the Panel's programme of work, especially in categories I, II and IV. The discussions of the Panel at its second session highlighted the need to undertake analysis of both subjects. The research studies necessary for such analysis are practically impossible to undertake within the time-frame of the Panel. They should be based on the careful consideration of data and figures whose compilation from many different sources as well as in-depth strategic analysis would require a longer period of time. It is considered, therefore, that the Panel may wish to recommend that these kind of studies should be recognized as priorities for future international action.

III. THE DIAGNOSTIC FRAMEWORK

18. The Panel at its second session recognized that changes in forest structure and cover must be addressed first at the country level. It called, therefore, for the development and use of a diagnostic framework to assist developing and developed countries to identify the causes of deforestation and forest degradation that were most significant to them. Such a framework was illustrated in the report of the Secretary-General on this topic presented to the Panel at its second session. If it was developed, it would enable countries to:

(a) Assess the extent and quality of their present forest cover;

(b) Consider the extent and quality of forest cover desired;

(c) Decide, against this background, whether the changes taking place were harmful or beneficial;

(d) Analyse the chain of causes (from direct to underlying) that were leading to any harmful changes;

(e) Identify those causes that were most significant and would most readily respond to treatment (some causes may offer little possibility of manoeuvre such as transboundary pollution, for example);

(f) Decide on the most effective ways of achieving the desired outcome;

(g) Determine priorities for action;

(h) Periodically assess the effectiveness of any action taken and the progress towards the forest condition desired.

19. The incorporation of the diagnostic framework as a tool into a country's sustainable development planning process could be used to develop practical and flexible management tools for land-use planning related to forests. It could be helpful in defining the elements of a national forest policy, an essential prerequisite of sustainable forest management. The diagnostic framework could therefore be used to help prepare a national policy framework as well as forest action plans or programmes, or as part of policy reforms or a revision of an existing plan or programme. It could also be used in the development of other environmental and land-use plans, for example, national biodiversity strategies and action plans or national environmental and natural resource development programmes.

20. The preparation of such a diagnostic framework would enable each country to undertake its own analysis of the conditions specific to it; it would allow a wide range of national factors to be taken into account, particularly the interaction of different sectoral policies, and a nation's international obligations; and it would draw attention, where appropriate, to those circumstances in which global or external influences were important as driving forces of change.

21. One advantage of using this diagnostic framework (see table 1) lies in the way the different steps in applying the diagnostic framework could link closely with, or be the result of, other programme elements of the Panel's programme of work, as for example:

(a) Step (a) and programme element III.1 (a) (Assessment of the multiple benefits of all types of forests) and forest resource assessment;

(b) Step (b) and programme elements I.1 (Progress in national forest and land-use plans) and thus national forest action plans and national forest programmes; I.5 (Needs and requirements of countries with low forest cover); and III.1 (b) (Methodologies for proper valuation of the multiple benefits of forests);

(c) Steps (c) and (h) being based on the use of criteria and indicators for sustainable forest management (programme element III.2);

(d) Steps (f) and (g) providing relevant material for programme element II (International cooperation in financial assistance and technology transfer for sustainable forest management).

22. It is also evident that the same process can be applied effectively to the diagnosis of any other changes in the quantity and quality of forest cover such as those addressed under Panel programme elements I.4 (Fragile ecosystems affected by desertification, and the impact of airborne pollution on forests) and I.5 (Needs and requirements of countries with low forest cover). It can also be directly linked with any considerations arising from various other international agreements.

Table 1. Links between the diagnostic framework and other Panel programme elements

Step in the diagnostic framework	Programme element
(a) Assessing quality and quantity of present forest cover	III.1 (a)
(b) Optimum forest cover	I.1, I.5, III.1 (b)
(c) Assessing changes in forest cover	III.2, III.1 (a)
(d) Chain of causation	
(e) Identifying significant causes	
(f) Policy option	II
(g) Priorities for action	II
(h) Monitoring progress	III.2

23. The use of the diagnostic framework should be neither time-consuming nor expensive. For example, an initial analysis based on existing information could probably be made through a consultation among representatives of different interested groups meeting for less than a week. Suggestions about the kinds of information required are made later in this report. This analysis should lead directly to defining the chains of causation, identifying the most significant causes and suggesting the most effective action. However, in some instances, it is possible that there may not be enough information to make a judgement. In such cases, the collection of the relevant information must be the first step.

24. The use of the diagnostic framework should be both iterative and progressive, for several reasons. First, the goal (the desired quantity and quality of forest) is likely to change as overall national policies and priorities evolve; second, as one limiting factor is removed, another will assume greater significance; and third, the international context may change and alter the setting in which national decisions should be made.

25. Two separate elements should be involved in the use of the diagnostic framework:

(a) Defining the desired extent and quality of forest cover;

(b) Identifying harmful changes and diagnosing their causes.

26. These are analogous to deciding what the characteristics are of a healthy body, detecting signs of disease and diagnosing their causes.

A. The forest cover desired

27. It is not essential that this assessment of optimum forest cover be very detailed but it should give a broad estimate of the amounts, kinds and locations of forest that the country considers necessary to meet its requirements for various purposes, such as:

(a) Soil and water conservation;

(b) Conservation and sustainable use of biodiversity;

(c) Growing of timber and non-wood forest products;

(d) Providing of energy and fuel;

(e) Planned conversion to sustainable agriculture;

(f) Other social benefits, such as generating employment, recreation and providing a source of livelihood;

(g) Carbon sequestration.

(The information should be sufficiently detailed to show whether trends in the quantity and quality of forest are diverging significantly from the desired condition. It is likely that the information available will become more detailed at each successive iteration.)

28. These will be reached by examining the outputs from such measures as, for example, national development strategies, natural resource plans, national biodiversity strategies and action plans, national forest action plans and programmes, mapping of erosion hazard, designation of forests for catchment protection, predictions of timber supply and demand and survey of land potential for agriculture.

B. Use of the diagnostic framework

29. The process of diagnosis is likely to differ in detail from country to country, or even between different regions within a country, but a typical example might include the following steps:

1. Diagnosis of chain of causation

(a) Identification of areas where the forest was changing in quantity (decrease or increase) or quality (deterioration or improvement);

(b) Classification of these areas into types with similar characteristics;

(c) For each type, determination of the direct cause or causes of the change (for example, excessive or careless extraction of timber) and the main agents and actors;

(d) Moving from the identified direct causes to those next up along the chain of causation (for example, lack of regulation and control; nature of concession policy; delays in establishing permanent forest estate). Note that each direct cause may lead to more than one further up along the chain of causation;

(e) Continuation of this process of analysis as far as possible.

30. Information for this analysis would be obtained from all available sources: local and personal knowledge; official records; ground-truthing; official statistics and reports, and so forth. The result would be a branching "tree" of causes, each tier less direct than the preceding tier. The significance of the change would be assessed against the desired condition, using appropriate criteria and indicators. The various stages, and possible sources of information, are set out in table 2.

Table 2. Using the diagnostic framework: information and sources

Information need	Source of information
1. Identify symptoms: areas undergoing rapid, unplanned or irreversible change: Where Scale Nature of change	Forestry sector reviews and reports, personal knowledge, direct observation, ground-truthing, government reports, reports of international agencies such as the Food and Agriculture Organization of the United Nations (FAO), remote sensing, action plans for other international agreements, for example, the Convention on Biological Diversity
2. Identify direct causes of change: Agents and actors	Local records, ground-truthing, local knowledge, direct observation, government reports on forest and other sectors
3. Identify indirect causes, underlying forces driving direct causes and interactions between them: uncovering the chain of explanation	Policy analysis, tracking extrasectoral influences and policies, macroeconomic policies and pressures, international policies, personal knowledge, reports of various government departments

2. Identification of limiting factors or priorities for action

31. At this stage, the nature of the analysis would change. An attempt should now be made to identify those causes that are more significant than others or likely to respond more readily to remedial action. The criteria to be used might include:

(a) Time-scale (can policies be implemented immediately and are they likely to yield results in the short term, or are they mid- or long-term in perspective?);

(b) Sectoral responsibility (does responsibility for their implementation lie within the forest sector, in other sectors of the economy, or perhaps outside the jurisdiction of the country itself?);

(c) Scale (are the policy options effective at a local, regional or national scale? Do they require some supranational or international initiative?);

(d) Availability of information;

(e) Capacity to act.

3. Periodic assessment and iteration

32. The diagnostic process should be repeated at intervals. The time lapse will be determined by local circumstances, and particularly by the kind of action necessary and the likely response time. For example, if the action required was local, such as providing local opportunities for employment, it might be useful to repeat the diagnosis after one year; if the necessary action required new legislation and training of staff, the period would be longer. As a rough guide, it would probably be useful to conduct a complete diagnosis every five years.

33. In summary, the diagnostic framework acts as a tool to:

(a) Identify the causes of, and possible solutions to, deforestation and forest degradation;

(b) Prioritize options for action and points for effective implementation;

(c) Periodically monitor progress towards forest plan objectives.

34. In order to be successful, the development of the diagnostic framework would need to be supported by the collection of accurate and updated information, capacity-building, donor coordination and participatory approaches and mechanisms. Examples of policies that have contributed to deforestation and forest degradation should be identified, and inappropriate policy incentives within the forestry sector - and in some countries inappropriate policies outside it - should be corrected. Policies and actions that have had a beneficial effect on forest structure and cover should also be identified, so

that information on effective measures to combat unsustainable practice can be gathered and disseminated.

35. The diagnostic framework proposed in this report, as a sustainable forest management tool, is available for immediate test application. The most convenient way to proceed would be to select a series of case-studies in countries with widely differing forest and development profiles. It would be most valuable and instructive if examples were to include a range of countries characterized by one or more of the following:

(a) High rate of deforestation or forest degradation;

(b) Increasing forest area;

(c) Desertification;

(d) Boreal, temperate or arid zone forests;

(e) High and low ratios of population to forest area;

(f) Both developed and developing economies.

36. In addition to their use in the countries concerned, these studies should be drawn together in order to refine the diagnostic framework and to determine whether any valid and useful wider generalizations can be made from them concerning approaches to addressing the issue.

37. In applying the diagnostic framework, very special attention should be paid to its contribution to integrated approaches to land use and development planning, and to harmonizing policies both inside and outside the forestry sector, and to the scope and opportunities for international action in addressing underlying causes of deforestation and forest degradation.

IV. CONCLUSIONS AND PROPOSALS FOR ACTION

38. At its second session, the Panel recognized that deforestation and forest degradation were complex issues, and that many of the factors causing them interacted and were in some cases synergistic. Many lie outside the forest sector, while others, such as unsustainable timber extraction, are linked to the forest sector. Most of the factors are social and economic in character. Inappropriate policy choices and approaches in other sectors can influence deforestation and forest degradation. The causes of deforestation and forest degradation are often country-specific, and simplistic conclusions or overgeneralized solutions or prescriptions for policy should be avoided. Each country, whether developing or developed, will have a particular set of circumstances, in terms both of the direct and underlying causes and of the scope for action in addressing them. Poverty and consumption patterns as well as land speculation, land tenure and land markets may also have a major influence on deforestation.

39. Deforestation and forest degradation pose a serious problem in many countries and the adoption of a more focused approach that concentrates on reversing the most damaging processes and promoting the most effectively beneficial ones is needed.

A. Consumption and production patterns

40. Long-term changes in consumption and production patterns in different parts of the world are important. It is a priority to review forestry-specific ramifications in the context of the work being done by the Commission on Sustainable Development, the Norwegian initiative and other relevant initiatives concerning long-term supply and demand of forest products.

41. International underlying causes of deforestation and forest degradation are also important factors to be taken into account and need to be further analysed.

Proposal for action

* To urge countries and international organizations to prepare in-depth strategic studies of forestry-specific ramifications of present consumption and production patterns in developing and developed countries, with special emphasis given to the positive and negative effects on the sustainable management and use of forests. These studies should also analyse international underlying causes, including transboundary economic forces as well as transboundary pollution.

B. National policy framework

42. In order to identify and address the underlying causes of deforestation and forest degradation and along the lines of the priorities identified in programme element I.1, a coordinated and integrated approach to land-use planning and national economic planning is needed that recognizes and takes into account all the cross-sectoral issues contained in the various Panel programme elements. These issues need to be addressed as a whole in a national policy framework for sustainable development that encompasses and harmonizes elements pertaining to sustainable development and environment plans, social and economic development programmes, national forest policy and plans and national biodiversity strategies and action plans.

Proposals for action

* To urge donor countries and international organizations, including regional development banks, to assist and finance research, case-studies and capacity-building activities in developing countries to allow an integrated approach towards:

(a) Formulation and application of a national forests policy, in the context of an overall national policy framework for sustainable development;

(b) Development of administrative structures and mechanisms to improve policy formulation and coordination, as well as planning, management and implementation of programmes;

(c) Application of environmental impact assessment as a planning tool and as a basis for action against uncontrolled forest conversions to other types of land use.

* To request donor countries and international organizations to support and assist developing countries in conducting strategic analysis of policies that have contributed to forest degradation and deforestation as well as of those that have had a positive effect.

C. Application of the diagnostic framework

43. In parallel with the required policy reforms for achieving sustainable forest management, the implementation of effective measures to address underlying causes of deforestation and forest degradation should be based on the results obtained from the application of a comprehensive diagnostic framework. The comparability of results among countries is desirable to identify common patterns and issues of common interest and to promote regional and global cooperation on this subject.

44. In this context, the diagnostic framework would not only serve as a useful tool both in developing and in developed countries in analysing deforestation and forest degradation but also, in adapted forms, be invaluable in setting the objectives of national forest policies; in exploring the effects of policies of other sectors on deforestation and forest degradation and the ways in which modification of such policies might promote sustainable forest management; in using and refining criteria and indicators and methods of valuation; in identifying priorities for action and for official development assistance (ODA); in locating deficiencies in capacity (for example, in management and supervision, information, research or education); in relating to national action plans for other international agreements and conventions; and generally as a powerful management tool in furthering the implementation of sustainable forest management.

45. The main function of the diagnostic framework should be constructive, corrective and forward-looking. It would complement and strengthen other existing forest planning exercises and should be used also, together with criteria and indicators (see programme element III.2), as a tool for the periodic assessment of progress (programme element III.1 (a)). Viewed in this way, it would be fully as useful in developed as in developing countries, and in analysing positive changes in forest cover as in diagnosing the causes of forest deterioration.

Proposal for action

* To encourage and assist countries in testing the diagnostic framework in a number of case-studies in order to:

(a) Develop and test its usefulness as a positive management tool in those countries for improved policy formulation and implementation;

(b) Refine the diagnostic framework itself.

Notes

1/ See Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), chap. I, sect. D, annex I, sect. III, para. I.2.

2/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex III.

3/ Ibid., annex II.

4/ A/49/84/Add.2, annex, appendix II.

5/ See United Nations Environment Programme, Convention on Biological Diversity (Environmental Law and Institutions Programme Activity Centre), June 1992.

6/ A/AC.237/18 (Part II)/Add.1 and Corr.1, annex I.

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IMPLEMENTATION OF FOREST-RELATED DECISIONS OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT AT THE NATIONAL AND INTERNATIONAL LEVELS, INCLUDING AN EXAMINATION OF SECTORAL AND CROSS-SECTORAL LINKAGES

Programme element I.3: Traditional forest-related knowledge

Report of the Secretary-General

SUMMARY

As requested by the Ad Hoc Intergovernmental Panel on Forests at its second session (E/CN.17/1996/24), the present report has been prepared for substantive discussion of programme element I.3, "Traditional forest-related knowledge" (TFRK), of the programme of work of the Panel. This report contains a general overview covering the nature of traditional knowledge, its relationships with property rights and the distinctions that it is necessary to recognize as regards integrating traditional knowledge into forest management. It describes recent progress and status concerning traditional knowledge with regard to management of forests, biodiversity prospecting and sharing experiences. In the last section, the report reviews the main obstacles to further progress in the wide application of TFRK and provides a set of conclusions and options for action for discussion by the Panel.

Within the overall context of sustainable development and taking into account how traditional knowledge and practices in their broadest sense could be applied to sustainable forest management, this report proposes that TFRK is diverse and composed of many linked features including:

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/...

(a) Information about the various physical, biological and social components of a particular forested landscape;

(b) Rules for using them without damaging them irreparably;

(c) Relationships among their users;

(d) Technologies for using them to meet the subsistence, health, trade and ritual needs of local people;

(e) A view of the world that incorporates and makes sense of all the above in the context of a long-term perspective in decision-making.

This report indicates that TFRK has diverse meanings and potential usefulness to global society, but that most of the knowledge concerned cannot, and the rest should not, be taken from its holders without their consent. It must therefore be accessed through negotiation and partnership. Most TFRK has little value outside the environment where it arose, however, and is likely to be most valuable only as a means to achieve on-site sustainable forest management. Accomplishing this requires that the holders of TFRK be involved in:

(a) Holders' partnerships, in which local people as well as the State agree holders' regimes for forest land;

(b) Planning partnerships, in which traditional and other forms of knowledge are used together in making decisions on the use of forests;

(c) Management partnerships, in which the partners collaborate to put their plans into effect.

Some forms of TFRK have meaning outside their local context and can have a role in other areas including commercial biodiversity prospecting. They can be made available on a contract basis between the holders and prospectors. Other forms of TFRK, including planting and harvesting systems, plan varieties and technologies, have less or no commercial potential but are nevertheless the intellectual property of their originators and holders. To protect TFRK, a comprehensive approach to intellectual property is needed, the aim of which would be to ensure a fair return rather than to exclude or monopolize. Formal agreements are needed to establish the right of collective holding of such knowledge. Further study and consultation are needed to establish the right of collective holding of such knowledge. Further study and consultation are also needed to define the wording of such formal agreements.

Since most TFRK cannot usefully be digitized, the role of computer database technology will be limited mainly to the sharing of anecdotal information through the Internet, and certain specific tasks linked to biodiversity prospecting.

It is suggested that the Panel give priority to actions addressed to finding ways to ensure:

(a) That groups possessing TFRK are recognized so that they can enter into access agreements concerning TFRK;

(b) That the relevant TFRK is recognized as the common property of the group entering into the access agreement;

(c) That all access to TFRK is through an access agreement with its holders, where these can be identified;

(d) That access agreements define the terms for the three main circumstances in which access to TFRK might be sought, namely (a) where the aim is to manage a forest by partnership between the people who live there and the government, (b) where the aim is to invent patentable products for commercial use and (c) where the aim is to share knowledge freely with others.

The main obstacle to achieving such settlements is likely to be the difficulties involved in negotiating consensual agreements with a variety of groups identified as holders of different types of TFRK. The Ad Hoc Intergovernmental Panel on Forests provides a unique opportunity for Governments that have taken this path to reassure others that TFRK is indeed useful in managing forests sustainably as well as in locating potentially valuable new products, and that a fair and equitable sharing of benefits arising from such knowledge can only support each country in its efforts to achieve sustainable development.

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INTRODUCTION

1. At the second session of the Ad Hoc Intergovernmental Panel on Forests (see E/CN.17/1996/24, sect. IV.B.2), the Panel emphasized that the substantive discussion should focus principally on the terms of reference for this programme element as determined by the Commission on Sustainable Development, taking into account the relevant paragraphs of the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles) 1/ and the relevant chapters of Agenda 21, 2/ as well as other relevant intergovernmental processes, in particular the Convention on Biological Diversity. 3/

2. Relevant chapters of Agenda 21 include chapter 11 ("Combating deforestation") and chapter 26 ("Recognizing and strengthening the role of indigenous people and their communities"). Elements 2 (d), 4, 5 (a) and 12 (d) of the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles) are also relevant.

3. Recalling the terms of reference given by the Commission on Sustainable Development for this programme element, 4/ the following articles of the Convention on Biological Diversity are also relevant. By these, Parties agree, as far as possible and appropriate, and subject to national legislation, to:

(a) "Respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices" (art. 8 (j));

(b) "Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements" (art. 10 (c));

(c) "Encourage and develop methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention" (art. 18.4).

4. At its third meeting in November 1996, the Conference of the Parties to the Convention on Biological Diversity will consider ways and means to implement article 8 (j) of the Convention. It will also examine the links between forests and biological diversity in accordance with its decision II/9, paragraph 2 (b). 5/ In this context, it should be noted that this report takes into consideration paragraphs 8, 9, 16 and 17 of the Statement on biological diversity and forests from the Convention on Biological Diversity to the Ad Hoc Intergovernmental Panel on Forests of the Commission on Sustainable Development (E/CN.17/IPF/1996/9 and Corr.1, annex).

5. The present report was prepared jointly by the secretariat of the Convention on Biological Diversity and the secretariat of the Ad Hoc Intergovernmental Panel on Forests, Division for Sustainable Development, Department for Policy Coordination and Sustainable Development of the United Nations Secretariat. This report seeks to provide the basis for substantive discussion, by the Panel at its third session, of programme element I.3, in accordance with the guidance provided by the Panel at its second session (E/CN.17/1996/24). The secretariats also received valuable contributions in the form of submissions from Governments, from intergovernmental and non-governmental organizations with relevant expertise, and from individual experts.

6. The approach applied in this report assumes that no ecosystem can be managed sustainably without ecological knowledge and clear management aims. The knowledge involved may be drawn from global or local experience, while the management aims are determined by the society doing the managing, based on its own sense of priorities. Within the context of sustainable development, the social actors in each society can be thought of as partners in a common endeavour. Where people belonging to different societies influence forest management aims at the same time, the clarity of those aims can be lost unless partnerships exist among relevant interested parties. How to create and operate such partnerships at the local, national and global levels is thus just as critical an issue in sustainable forest management as how to obtain and use knowledge, whether traditional or otherwise.

7. Partnerships by definition are based on free negotiation, informed consent and agreement among equals. The focus in this report on a partnership-based approach follows the position in favour of participatory management regimes as adopted by the Forest Principles, by Agenda 21, and by the Convention on Biological Diversity. The range of possible partnerships in forest management include those between nations, nations and corporations, nations and local people, and between other combinations of interested parties depending on circumstances.

8. Section I of this report provides a general overview, including a review of the technical, economic and social issues that arise. Sections II and III provide a review of progress and status, and obstacles to further progress, respectively. Section IV recalls the issues that the Panel, at its second session, identified as meriting further development and offers a set of conclusions and options for action.

I. GENERAL OVERVIEW

A. Nature of traditional forest-related knowledge

9. Traditional knowledge (TK) is the information held in human memory that is accessible, by recall and the practice of learned skills, in a useful way in day-to-day life. In this context, the term "traditional forest-related knowledge" (TFRK) is often used to mean "a blend of knowledge and experience integrated within a coherent world view and value system". "Traditional" means "handed down from one generation to another", and in the case of TFRK,

traditional knowledge usually encompasses knowledge that has been accumulated by societies in the course of long experience in a particular place, landscape or ecosystem. It can be contrasted with cosmopolitan knowledge, which is drawn from global experience and combines "Western" scientific discoveries, economic preferences and philosophies with those of other widespread cultures.

10. The open-endedness of these words helps to explain the diversity of the literature on TFRK, which encompasses the spiritual experiences, philosophies, politics, technologies, subsistence activities and external relations of all forest-dwelling peoples whose lifestyles are strongly influenced by their own traditions, and who are often included within the broad category of indigenous people. However, not all those who possess TFRK are indigenous in the sense implied here and in the usage of other forums. Principle 5 (a) of the Forest Principles recognizes this in distinguishing between indigenous people and their communities, and "other communities and forest dwellers". Working definitions of traditional knowledge stress the links among traditionality, cultural distinctiveness and the local environment to which each culture is adapted.

11. As people use a forest ecosystem, they may learn how to harvest its resources without destroying it as a whole, even while changing its structure and species composition through selective planting, weeding, coppicing, burning and fallowing. For each place and level of technology, a stable relationship may arise between forest and social actors, but this stability will not survive the introduction of new hunting techniques (for example, firearms), tree-felling equipment (for example, chainsaws) or trading opportunities (for example, roads and markets). Traditional forest-dwelling people, however, use many species in many different ways, according to many different social rules. Some aspects of each approach are likely to be more resilient than others, and these will evolve in traditional forest-related knowledge, innovations and practices, which if related to sustainable forest management will tend to have much to teach other societies.

12. For any given level of technology, resources that are exclusively used by small numbers of people who cooperate with one another are safer than those used by many, competing people. Thus, any measure that limits to a particular group the right to exploit a living resource will tend to promote its sustainable use. This is because the group with access to the resource will have more opportunity than others to learn about it and about how to use it productively. That group will also have an incentive to use it for its own long-term benefit and hence to use it cautiously and more-or-less sustainably. Exclusive access, knowledge and a long-term perspective are the key ingredients that may allow the sustainable use of resources. This depends, however, on the remaining in force of the social rules that govern access and on technology's changing at a rate no faster than that at which those social rules can adapt to it.

13. As a group accumulates TFRK, it will develop a culture that is increasingly distinct from all others. Many similarities will persist, however, owing to common cultural and genetic inheritance from other peoples, and adaptation of other groups to the demands of similar ecosystems. Each culture thus contains some traditional knowledge that is uniquely local, and some that is widely shared. The two kinds of knowledge are deeply intermingled and embedded in the culture as a whole. Most elements will make little sense if they are removed

from a cultural context - when stored, for example, in a computer database. Many can pass easily into new cultural contexts, however, if the recipient culture is open to new ideas and particularly if it has grown up in a similar environment - one, that is, in which the imported concepts make sense.

14. It is suggested, therefore, that TFRK be made up of the following linked features:

(a) Information about the components of a particular forest ecosystem, such as its soils, trees, animals, streams, hunting grounds, old fallow and sacred sites;

(b) Rules for using them;

(c) Relationships among their different users;

(d) Technologies for using them to meet the subsistence, health, trade and ritual needs of local people;

(e) A view of the world that makes sense of such information, rules, relationships and technologies in the context of a long-term perspective in decision-making.

15. These aspects of TFRK have different kinds of meaning for global society, and can be used in various ways. New data about forest ecology or the behaviour and growth rates of forest organisms, for example, might suggest new ways to design, implement and monitor forest management systems. Sharing TFRK might help forest managers avoid procedures that impact unnecessarily on local social systems. Rules on how to grow and harvest forest organisms or to use forest soils without damaging them might improve forestry and agroforestry systems. Clues on how to keep harmonious social relations among competing groups might help relieve stresses in other societies, including urban societies. Traditional technologies may be more benign environmentally or socially than newer ones, and might be used more widely.

16. All this raises three issues for nations that wish to find ways to use TFRK in forest management:

(a) Little of the knowledge will be meaningful outside its local context, so only some is likely to be helpful in solving practical problems elsewhere;

(b) Most TFRK is so deeply embedded culturally that it can be retrieved only through such traditional means as the trances of shamans, healing rituals, dances, stories, initiations and other practices that are not amenable to scientific study;

(c) The aim of promoting cultural transmission of TFRK from traditional societies to cosmopolitan ones requires that the former be willing to give and the latter to receive new ideas. This, requiring mutual respect and understanding, cannot occur while feelings of inequality between the two kinds of society persist.

B. Traditional forest-related knowledge and property rights

17. An increasingly large part of the global economy is now based on buying and selling information, so the nature and future of intellectual property are often considered a central issue. This can obscure the fact that all economic activity rests ultimately, and for most people directly, on management of ecosystems, the abuse of which has consequences for achieving development objectives. Even so, intellectual property is an important issue that impacts on the use of TFRK in several ways (Gadjil and Devasia, 1995; Walden, 1995; Convention on Biological Diversity, 1996; Programme for Traditional Resource Rights, 1996; Kay, 1996).

18. There are two main themes within the cosmopolitan approach to intellectual property. First, patent laws have been devised to create temporary monopolies in the supply of certain novel goods and services. The aim of these is to safeguard the investments that often lead to technical and product innovation in an industrial context. Patent laws typically require that to be eligible for protection an invention must be new, useful and non-obvious, and must be described in detail in the application. These requirements appear to rule out the patenting of naturally occurring items that have not been modified by people, but this exclusion is narrowing in the light of court rulings and international agreements. The Agreement on Trade-Related Aspects of Intellectual Property Rights, including Trade in Counterfeit Goods, as contained within the agreements of the Uruguay round of multilateral trade negotiations, 6/ for example, allows countries to exclude "plants and animals other than micro-organisms" from patentability (art. 27 (3b)), but this subparagraph will be reviewed in 1999.

19. The second theme involves the creation of rights to plant varieties that have arisen as a result of selection by people. The different (but complementary in intent) concepts of plant breeders' rights and farmers' rights are designed to protect a general interest in the use of varieties. The intent is not to exclude or monopolize, but rather to promote sharing, use and further development of the varieties concerned while recognizing the original source of materials.

20. Alternative intellectual property rights regimes suitable for the needs of local communities that collectively possess TFRK have been proposed, taking into account the way in which traditional knowledge is acquired as the common property of a people and hence constitutes an integral and inalienable feature of its culture. One such proposal (Nijar, 1995) rejects the application of industrial patent law to innovations based on TFRK, and seeks to resist the turning of traditional knowledge into a traded commodity because this can erode community solidarity. It asserts that commercial use of TFRK can occur but only at the absolute discretion of its holders, and that the State's main role is to safeguard and protect the rights of those holders. It also describes a community intellectual rights act to cover all uses of traditional knowledge. This and other proposals show the extent to which current views on property, innovation and trade may have to be reconsidered if the views of indigenous and traditional communities are to be reflected in global agreements. The balance of opinion is that the application of patent law to TFRK itself is to be rejected while accepting its usefulness and suggesting improvements where

particular inventions are based on TFRK and developed to marketability (as, for example, in the case of certain pharmaceutical products).

21. It has also been suggested that the concept of plant breeders' rights be revised and extended to apply to traditional knowledge systems, creating national sui generis (unique) arrangements for recognizing a general interest of the holders in each knowledge system as a whole. Several authors stress that such rights must reside in groups rather than individuals, since traditional knowledge arises through the efforts of past, present and future members of a particular society. The concept of farmers' rights as defined in resolution 5/89 of the Conference of the Food and Agricultural Organization of the United Nations (FAO), adopted 29 November 1989 at the Twenty-fifth Session of the Conference, 7/ and the provisions of the Convention on Biological Diversity support this view. Furthermore, it would not be ethical to employ an individual to reveal traditional knowledge without the consent of the society involved. Since TFRK cannot otherwise be taken from its holders involuntarily, and the holders are the group, it must be correct for holding by the group to be recognized in law and for access to TFRK to occur only by agreement between the holders as a group and the person or institution seeking to obtain access.

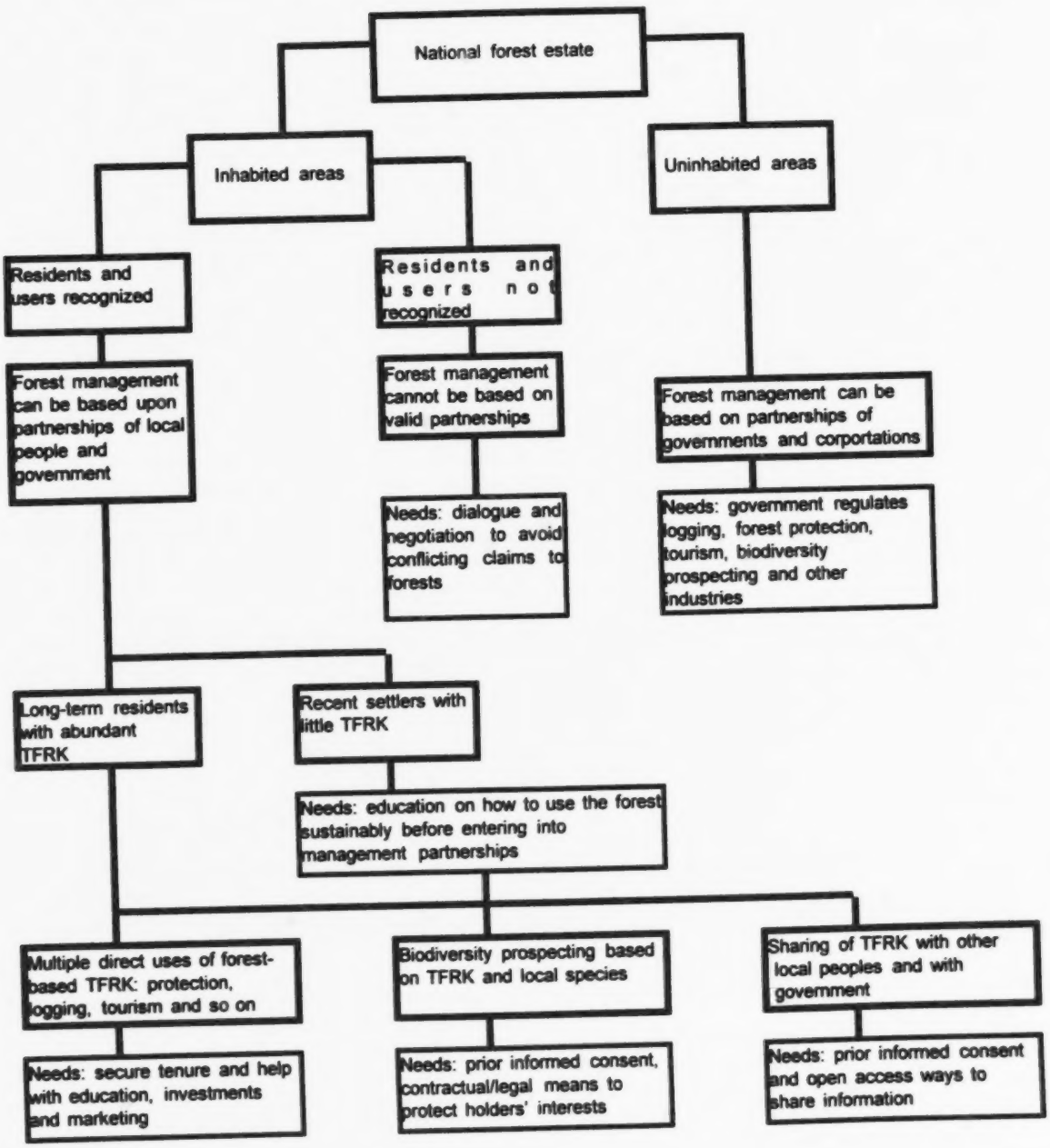
22. If TFRK and practices are to have a role both in maintaining the way of life of the people who possess it, and in managing forests sustainably, then there is a need to translate them both into policy and into practice.

23. Partnerships involve agreement and cooperation between people who are equals but have complementary needs, so the negotiation of partnership agreements for managing forests has the implication that local people, Governments, researchers, interested public and private sector enterprises and all other interested relevant parties will treat one another respectfully. This applies equally to biodiversity prospecting and other research contracts. In any contractual arrangement it is up to the parties to decide what is fair, but minimum standards can be mandated by law, and communities and Governments can cooperate to enforce the contracts and to deter unethical practice.

C. Key distinctions in forest management

24. In its recommendation to establish the Panel, the Commission on Sustainable Development recognized that a central concern was to avoid further damage to natural forests by unsustainable human activities. 8/ As the Panel noted at its second session when discussing programme element I.2, the underlying causes of deforestation and forest degradation are diverse, interrelated and rooted in ecological, social, economic factors that extend beyond the forest management sector or the locations of forests themselves. Enough is known about the causes of forest damage to define a simple framework that takes into account the nature and potential role of TFRK as well as contemporary forest science. Thus, in principle a country's forest estate can be divided into inhabited and uninhabited areas, though in practice this may be difficult (figure I).

Figure I. Key distinctions in forest management


National forest estate
Inhabited areas
Uninhabited areas
Residents and users recognized
Residents and users not recognized
Forest management can be based upon partnerships of local people and government
Forest management cannot be based on valid partnerships
Forest management can be based on partnerships of governments and corportations
Needs: dialogue and negotiation to avoid conflicting claims to forests
Needs: government regulates logging, forest protection, tourism, biodiversity prospecting and other industries
Long-term residents with abundant TFRK
Recent settlers with little TFRK
Needs: education on how to use the forest sustainably before entering into management partnerships
Multiple direct uses of forest-based TFRK: protection, logging, tourism and so on
Biodiversity prospecting based on TFRK and local species
Sharing of TFRK with other local peoples and with government
Needs: secure tenure and help with education, investments and marketing
Needs: prior informed consent, contractual/legal means to protect holders' interests
Needs: prior informed consent and open access ways to share information

25. Inhabited forest areas are subject to customary rights, located within indigenous lands and territories, or are used by forest-dwelling people, while uninhabited ones are not encumbered by such usage or holders' claims. However the notion of uninhabited forest areas should be viewed with extreme caution for two reasons. First, there continue to be cases of national Governments' becoming aware of the existence of isolated indigenous forest-dwelling communities in areas considered uninhabited. Second, the areas effectively utilized by many indigenous and traditional communities for hunting, collecting or ceremonial purposes are often far more extensive than Governments and planners recognize.

26. If such uninhabited areas exist, the nation as sole holder of the resource could, if appropriate, enter directly into planning and management partnerships with other social actors (national and international) in order to use the forest in accordance with its national policies and with internationally agreed guidelines and best practice. The aim of such partnerships would be:

(a) To allocate forests to different kinds of use (spatial planning process);

(b) To manage them for protection, production of timber, watershed benefits, tourism revenues or biodiversity prospecting (management process);

(c) To ensure that the planned use of one area does not adversely affect the use of other areas (environmental impact assessment (EIA) process).

27. As the locations of all habitations and associated claims to use the forest in a country are recognized, the full extent of human occupancy of its forest estate will become clear. Where occupation is established, it is possible for government to take advantage of the fact by establishing partnerships with local people to manage the forest sustainably (figure II). This is the main context in which TFRK can be of use to Governments.

28. There are three general options for local people with respect to using their knowledge to help achieve sustainable forest management, whereby:

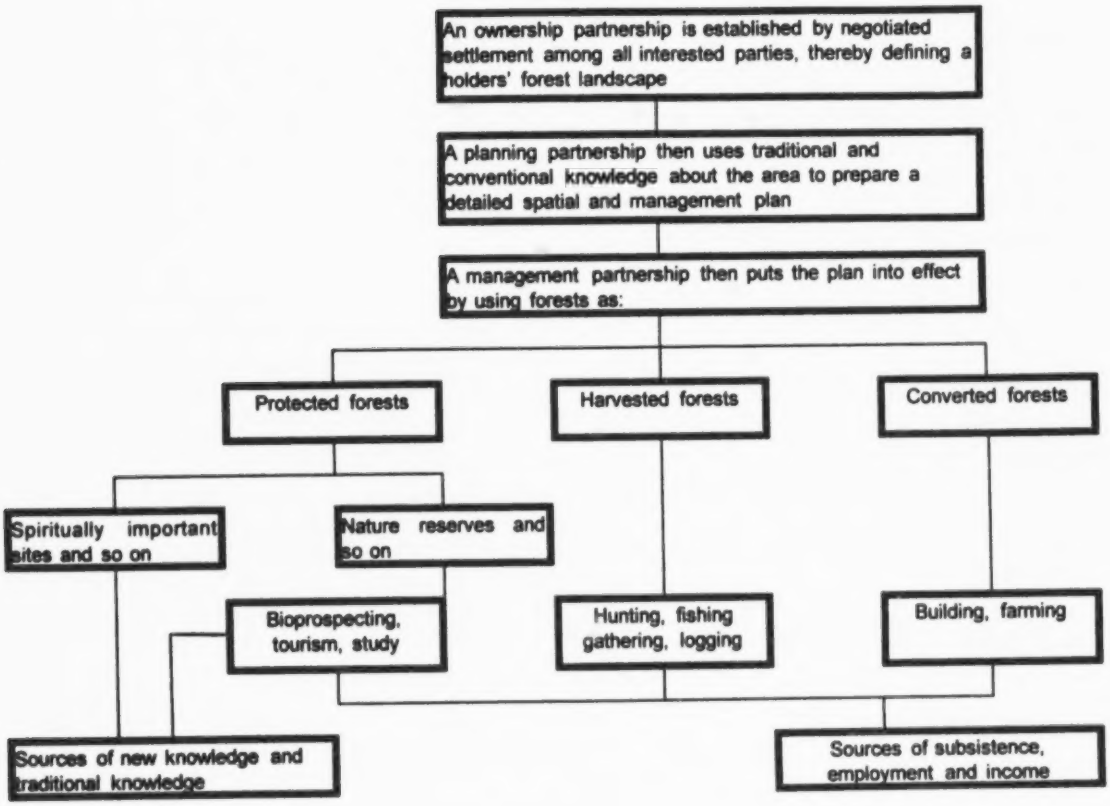
(a) TFRK may be involved in the direct management of local forests;

(b) TFRK and local species may be used in the process of biodiversity prospecting;

(c) Good ideas on forest management derived from TFRK can be shared with others.

29. None of these options can be accomplished entirely without external communications, technical assistance, investment or access to markets, so a partnership approach is appropriate to all three. They have different technical and capital requirements, however, and have different consequences for the flow of benefits. The rest of this report describes the implications of this in all three cases, suggests how appropriate arrangements can be made, reviews progress, identifies barriers to further action, and proposes ways in which those barriers might be overcome.

Figure II. Managing inhabited forested landscapes


An ownership partnership is established by negotiated settlement among all interested parties, thereby defining a holders' forest landscape
A planning partnership then uses traditional and conventional knowledge about the area to prepare a detailed spatial and management plan
A management partnership then puts the plan into effect by using forests as:
Protected forests
Harvested forests
Converted forests
Spiritually important sites and so on
Nature reserves and so on
Bioprospecting, tourism, study
Hunting, fishing gathering, logging
Building, farming
Sources of new knowledge and traditional knowledge
Sources of subsistence, employment and income

II. RECENT PROGRESS AND STATUS

A. Direct management of forests

30. Figure II traces the sequence of events concerning how traditional knowledge and practices in their broadest sense could be applied to the sustainable forest management of an inhabited landscape. It is envisaged that this would begin with the agreement of an holders' partnership for the landscape concerned. This means an arrangement that recognizes the complementary roles of government and local people in the area concerned, and that lays down procedures for dialogue and the settlement of claims among them. This can have policy implications, as it relates to the distribution of responsibility for forest management.

31. Descriptions of decentralization and conservation processes in Colombia, Costa Rica, India, Indonesia, Kenya, Nepal, Nigeria, the Philippines, the Russian Federation and Zimbabwe are contained in a recent World Bank study (Lutz and Caldecott, in press). The study concluded that local empowerment and the strengthening of local institutions were preconditions for managing ecosystems according to local needs using TFRK, but the forms they took varied greatly and could not be prescribed in detail. The study came to the following four main conclusions, which should be borne in mind during any process of decentralization since these conclusions indicate that serious risks can be generated both to people and to forests:

(a) Precipitate and unplanned decentralization can neutralize national and global influence, while giving powers to local societies that may lack adequate skills and the accountability to use those powers properly;

(b) Second, redistributing power may be seen as a threat by some groups, prompting them to resist change. Thus, mediating bodies trusted by all sides will be needed to smooth the transfers of power, and support from law and policy will be needed to help the newly empowered locality sustain itself;

(c) Third, there is the risk that a locality that is no longer sheltered by a national Government may become vulnerable to groups wishing to exploit it. Where national Governments are no longer able to control such threats, localities must be helped to communicate and collaborate to prevent them from being singled out and overwhelmed one by one;

(d) Finally, uncertainties in the process mean that there is always a risk that the need to protect nature reserves may be forgotten for a time. In the tropics especially, irreversible damage to the components of biodiversity can occur swiftly, so resources for protecting habitats and ecosystems must be supplied throughout the process.

32. Once a settlement of the holders' partnership has been achieved, planning partnerships can be established. Interested parties collaborate to understand the landscape using traditional, local and global approaches to the discovery and use of knowledge. Examples of this process include the planning of multiple-use landscapes in East Kalimantan, Indonesia, and in the Canadian Arctic, based on social mapping, participatory rural appraisal, and global

positioning and geographical information systems (GPS/GIS) (Saunier and Meganck, 1995; Sirait and others, 1994; Brooke, 1993). Such procedures also involve adopting guidelines for managing the landscape's ecosystems sustainably for various purposes, and adapting them to local conditions in the light of traditional and other knowledge. Detailed rules for operating a management partnership should emerge from this process, helping to guide the landscape's use in practice.

33. There are three main options for using land in a forested landscape:

(a) As converted forest (for example, for farms, tree plantations, buildings and other infrastructure);

(b) As harvested forest (for example, for logging, hunting, fishing and gathering);

(c) As protected forest (divided into sacred areas that cannot ordinarily be used by living people, and nature reserves that can be used for such purposes as tourism, biodiversity prospecting, education and research).

34. There may be some overlap between these categories (for example, some parts of a nature reserve might be available for hunting and gathering, but not for logging), and detailed zoning may be required depending on planned use (for example, for stand-specific logging regimes). The emphasis will also vary among locations depending on the outputs sought, ranging from biodiversity protection to subsistence use (harvesting wild meat, medicinal plants, food plants and so forth), ecotourism (harvesting revenue from visitors interested in nature and local culture), precision logging (for example, felling rattan canes or special woods) and logging for general-purpose timber. The details cannot be prescribed, and must emerge from dialogue among knowledgeable people in the context of planning and management partnerships.

35. Cases where all steps in this process have been followed, so that Governments and local people have worked as partners in forest management, include that of "conservation areas" (that is to say, large multiple-use landscape units with an emphasis on sustainable use of resources) in Nepal, Australia, the United States of America, Canada, Indonesia and Costa Rica. The same principles apply to reforestation (for example, joint forest management areas in India), wildlife management (for example, CAMPFIRE districts in Zimbabwe) and timber production (for example, west coast beech forests in New Zealand). Thus the evidence is strong that once Governments have recognized the nature and value of TFRK and accepted the need to manage resources through local partnerships, then such arrangements will be both feasible and effective (OPCE, 1995; Pye-Smith and Feyerabend, 1994; Western, Wright and Strum, 1994; Fisher, 1995; FDC, 1996).

36. Many studies show that local people are well aware of the nature of many of the resources in their environments, and know how to manage them well. Traditional knowledge, innovations and practices, and authority over certain resources are often possessed by individuals, by women or men, by clans, or by groups descended from residents of particular villages (for example, in parts of Switzerland). Harvesting rates may be regulated by access controls of a wholly

traditional kind (for example, molong among the Penan of Borneo) or reinvented but based on older forms (for example, sasi among the peoples of Maluku in Indonesia) or else they may contribute a new response to changing circumstances (for example, in the Niger delta of Nigeria, where one community has devised a "three-years-on-nine-years-off" logging cycle for certain trees). It is most feasible to maintain such control over land and trees, which are easier to claim and mark than wild animals.

37. Traditional people do not know everything, however, nor are they able to regulate every use of every component of a forest. Gaps in knowledge and control mean that they are unable to manage a forest to the limit of its productive capabilities in every dimension. Broad margins for error are built into traditional systems, and depend on social measures to limit the number of users, and on regulation of the timing and extent of access to certain areas.

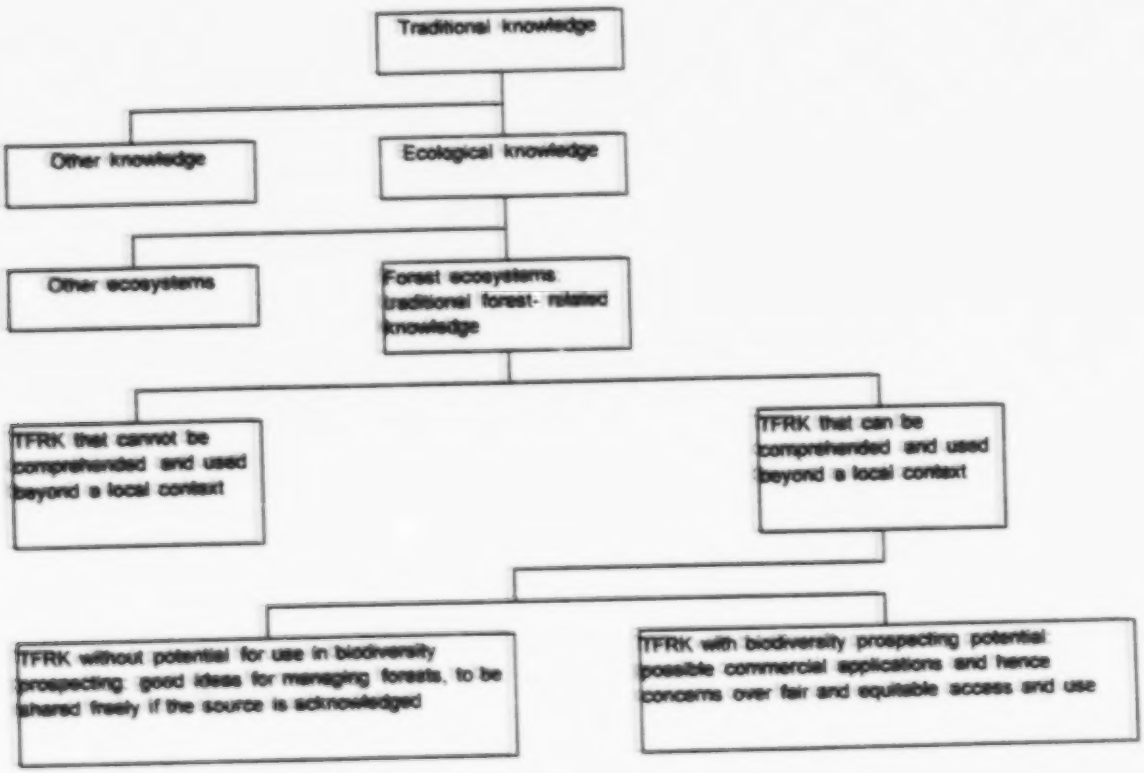
38. These measures are able to achieve sustainable use provided the underlying conditions remain fairly constant. However, a management system based on TFRK can unravel quickly if population density increases, if access controls break down, or if new technologies are introduced that allow goods to be sold on external markets. Conversely, there are ways for a stable, TFRK-based system to be maintained while selectively importing new ideas and investments to increase the range of materials harvested and the revenues obtained. These ways require that the possessors of the TFRK, innovations and practices concerned maintain their authority to decide how the forest is used, and are able to decide for themselves which ideas to import and which investments to undertake, and when.

B. Biodiversity prospecting

39. The Panel at its second session recognized that traditional forest-related knowledge, innovations and practices, especially as they related to sustainable forest management and the use of non-timber forest products, constituted an important body of experience that was relevant for the fulfilment of its mandate. The present subsection refers to the subject of the use of non-timber forest products as part of the overall issue of biodiversity prospecting.

40. TFRK can be divided into the forms that cannot be understood and used beyond their local context and those that can be so understood and used. The latter can then be divided into forms with and without commercial potential (figure III). The latter category comprises good ideas for managing forests, which everyone may agree to share freely provided the source is acknowledged. Some forms of TFRK, however, can help biodiversity prospectors create new goods and services that might be patented and sold.

Figure III. An approach to the classification of traditional forest-related knowledge


Traditional knowledge
Other knowledge
Ecological knowledge
Other ecosystems
Forest ecosystems traditional forest- related knowledge
TFRK that cannot be comprehended and used beyond a local context
TFRK that can be comprehended and used beyond a local context
TFRK without potential for use in biodiversity prospecting, good ideas for managing forests, to be shared freely if the source is acknowledged
TFRK with biodiversity prospecting potential possible commercial applications and hence concerns over fair and equitable access and use

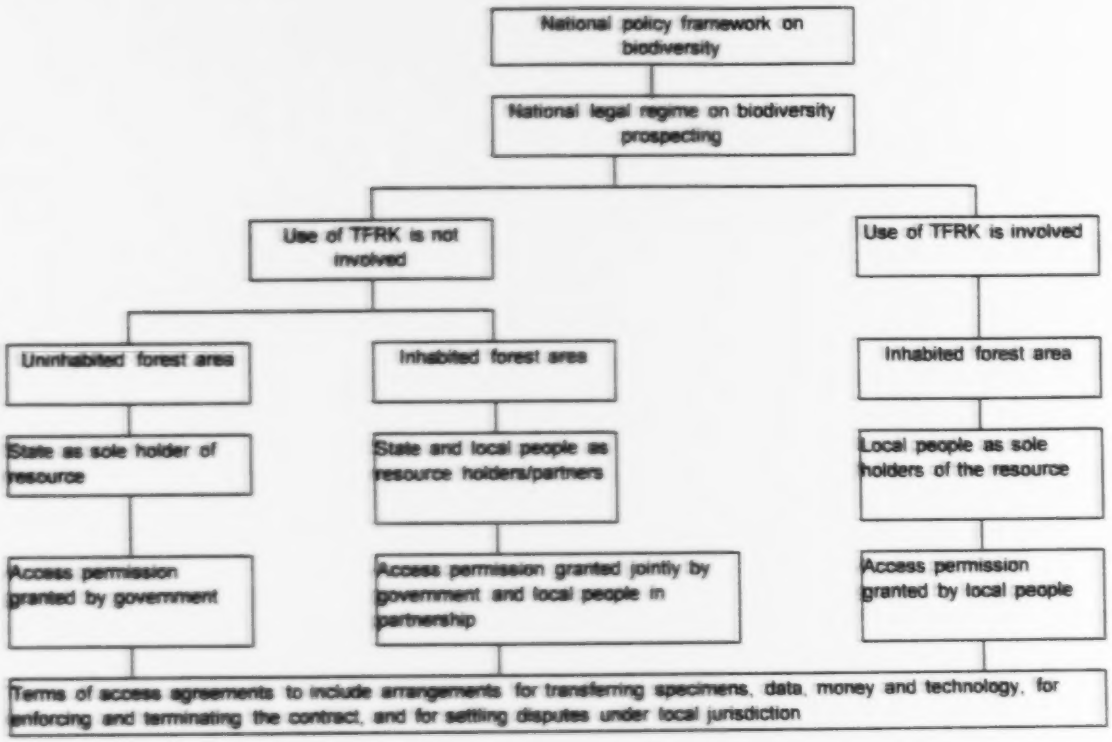
41. In this context, articles 8 (j) and 15 of the Convention on Biological Diversity introduce important guidelines. In particular, article 8 (j) provides that the wider application of the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles should entail the approval and involvement of the holders of such knowledge, innovations and practices, as well as the equitable sharing of the benefits arising from the utilization thereof. Holders of TFRK are thus entitled to make the sharing of such knowledge, innovations and practices contingent upon satisfactory benefit-sharing arrangements. This notwithstanding, there may be cases where traditional communities, for well-founded cultural reasons, choose not to reveal their knowledge.

42. The value of ethnobiological knowledge in guiding those wishing to identify certain kinds of naturally occurring chemicals within wild species is now well established. In the case of medicines, traditional preparations are used to treat many ailments, including all kinds of infection, asthma, diabetes and hypertension, and these preparations often have real effects on pathogens and symptoms. This is because over millions of years plants have evolved chemical defences against predation and disease, which therefore affect animal physiological systems and inhibit fungal, bacterial and viral growth or reproduction. TFRK can be employed to guide the practical choice of those species most likely to exhibit the desired properties from among the thousands of species that may be present in a forest. Such information can save much time and money when used as an alternative to the random screening of specimens. These savings can be of great commercial significance and consequently raise significant access and equity issues.

43. These issues revolve around prior informed consent, or whether people wish to use their own TFRK for biodiversity prospecting and, if so, how and on what terms. Other issues should not arise until this basic decision has been made after free, full and informed discussion. The reason for this is that the aims involved will affect the details of how data are to be collected, managed and used. For example, the procedures when the aim is to record TFRK for the direct use of local people and the teaching of children, will be very different from those when the aim is to make money. Although computer databases might have a role in meeting the first aim, there are also viable alternatives including apprenticing young people to experienced shamans and healers and promoting work between them and schoolteachers. If income is sought, however, then other needs come into play.

44. Foremost among such needs is the need for a national policy framework and a supportive national legal regime requiring all biodiversity prospecting to occur through valid and enforceable contracts between the holders of TFRK or, in the case of local species in inhabited forests, the holders/partners (figure IV). For countries that are Parties to the Convention on Biological Diversity, such policy and legislation should by definition be consistent with the terms of the Convention. The law should specify the minimum terms of such contracts, for example the form of material and data transfer agreements, the kinds of payments and technology transfers that must be negotiated, the legal nature of the parties, procedures and jurisdiction for enforcing the contracts and for settling disputes locally with the participation of the holders/partners, and arrangements for terminating the contract.

Figure IV. Pathways to biodiversity prospecting


National policy framework on biodiversity
National legal regime on biodiversity prospecting
Use of TFRK is not involved
Use of TFRK is involved
Uninhabited forest area
Inhabited forest area
Inhabited forest area
State as sole holder of resource
State and local people as resource holders/partners
Local people as sole holders of the resource
Access permission granted by government
Access permission granted jointly by government and local people in partnership
Access permission granted by local people
Terms of access agreements to include arrangements for transferring specimens, data, money and technology, for enforcing and terminating the contract, and for settling disputes under local jurisdiction

45. International agreements can have an important role in requiring, for example, that the holders of TFRK connected with a patent application certify that they are satisfied with the process by which it was obtained. It would also be helpful if descriptions of inventions submitted in patent applications were to be required to include an account of the location of origin and social context of the material used in developing the new product, including its past use by people.

46. Few countries yet have both a national policy framework and a legal instrument for biodiversity prospecting as well as local institutions capable of negotiating and enforcing research and development contracts with commercial partners. In this context, Costa Rica, which has an advanced system for biodiversity prospecting, has chosen not to use TFRK as a source of information until the indigenous people who possess it are ready to become involved on their own terms. Other countries have a framework law (for example, Executive Order 247 of May 1995 of the Philippines), but other aspects of the process are still being debated. Meanwhile, the Costa Rican biodiversity prospecting approach remains an important starting-point for any group wishing to devise its own way forward in this area (Reid and others, 1993; Caldecott and Lovejoy, in press).

47. Another set of experiences is that of Shaman Pharmaceuticals, a United States-based biodiversity prospecting firm that specializes in using TFRK to identify materials for further investigation as potential pharmaceuticals (WCMC, 1994; King, Carlson and Moran, 1996a, 1996b; Moran, 1996). The company is committed by its access contracts to return a share of profits to the peoples from whom it obtains TFRK, and all the peoples with whom it has ever worked will share equally in those profits regardless of the source of any particular product. The company has established the Healing Forest Conservancy (HFC) for the purpose of working with informant peoples to identify acceptable forms of revenue-sharing and to test them through pilot projects. The kind of return most often requested from HFC is help in clarifying resource tenure, but technology transfers through training programmes are also sought after. Each group also has the opportunity to request payments in cash if they so wish.

C. Sharing experiences

48. Enough cases are now on record to suggest that anyone who does not take into account relevant TFRK in planning forest management is unlikely to be doing an effective job. In the Caprivi region of Namibia, for example, attempts were made to overturn the traditional practices of early burning in silvipastoral systems and oxen-drawn ploughing in agroforestry ones. As predicted by local people, these approaches resulted in serious fire damage and soil erosion and are now being reversed. Similarly, in Ontario, Canada, logging companies ignored TFRK-based predictions that summer logging would damage fish stocks and that large-scale clear-cutting and poisoning of aspen as "weed" trees would adversely affect the supply of moose, beaver, blueberries and medicinal plants for local people. Corrections based on TFRK were then introduced at little financial cost to the companies, but at great social and economic advantage to the holders/partners collectively.

49. Meanwhile, at Ekuri in Cross River State of Nigeria, the British Government has been supporting a community forest project that demonstrates how to build management partnerships based on secure resource tenure and TFRK on the one hand, and on appropriate levels of advice and encouragement on the other (Dunn, Otu and Morakinyo, 1996; Morakinyo and Hammond, 1996). Some of the lessons learned were revealed when the Ekuri people, upon being asked to advise another village trying to solve its own problems of forest depletion, said that the people there should:

(a) Be united and prepared to work hard;

(b) Believe in themselves and start self-help projects after full discussion of their own problems and opportunities;

(c) Ensure prudent and realistic management of all the village's resources;

(d) Work with government departments and other outside groups to obtain help with transport and marketing, training and technical advice, financing, and monitoring and evaluation.

50. The above suggests the existence of a class of TFRK that, while of negligible commercial significance, is likely to be of widespread benefit if shared. There is at least a need for TFRK perspectives to be incorporated in standard forest management training. A pioneer institution is the Faculty of Forestry of the University of British Columbia in Canada, which in 1995-1996 opened a pilot course in "First nations' perspectives on forest lands", and held a workshop to identify how to include aboriginal perspectives and management partnerships in the other courses taught by the Faculty. At least three other Canadian universities are following suit (Simon Fraser, Victoria and Toronto), but clearly there is a long way to go and most other countries have yet to begin.

51. Another way to share TFRK is to rely on networks of concerned groups and institutions to collect information in collaboration with indigenous people, and to make this available through newsletters or on the Internet. A list of access points to existing networks is given in the annex to this report, and these could constitute a public-access interactive database, for example, as a specialized service associated with the clearing-house mechanism for technical and scientific cooperation of the Convention on Biological Diversity.

52. If TFRK is to be stored in a computer system and rendered accessible on the Internet, an agreement with the holders of the knowledge concerned would be appropriate. This is the third kind of access agreement that follows from recognition of collective property rights over TFRK. Since here the aim is to share rather than to sell knowledge, the terms would presumably be limited to confirming the holders' right to exclude certain kinds of information from storage and dissemination, and duly acknowledging sources.

53. Not all forms of TFRK can be managed using modern techniques, however. Traditional and cosmopolitan knowledge are both ultimately derived from data, comprising observations about the world. In the case of TFRK, data often relate

to seasonal and other changes in the environment which may, for example, indicate the availability of a resource or the timeliness of a ritual. From the Western scientific perspective, data often consist of numerical, categorical and other types of observation that can be held and manipulated in databases.

54. The two sources of data demand different approaches to management and communication. Technologies designed to manage Western scientific data are largely unsuitable for TFRK. Thus, the knowledge of a forest-dwelling community cannot be committed to a computer database without losing many of the understandings implicit in the narrative material. Almost by definition, TFRK applies to the locality in which it is obtained and may be meaningless elsewhere. Nevertheless, there is a role for exchange of TFRK between separate forest-dwellers and managers in similar environments, and between generations in communities where normal TFRK exchange processes have broken down. In such cases, the exchange of TFRK should be treated as a two-way process aiming to blend new knowledge with what is already known. Interactive forums such as workshops and meetings are essential, since the facts may not make sense without being adapted to local conditions.

55. Since most TFRK cannot usefully be digitized, the role of computer database technology is likely to be limited mainly to the sharing of anecdotal information through the Internet, and certain specific tasks associated with biodiversity prospecting. In these cases, translation and data security are respectively the main design issues. Digital mapping (using GIS and GPS) combined with social mapping will have an important role in establishing forest holders' planning and management partnerships, and anecdotal information can be culturally and geographically located in the same system to assist in forest management tasks. Precise design specifications would require further study and consultation.

III. OBSTACLES TO FURTHER PROGRESS

56. The chief needs are for the identities of groups that possess TFRK to be recognized in law, and for the TFRK itself to be legally recognized as the common property of the group in each case. Once these measures are accomplished by national Governments, it will be possible to access and use TFRK by agreement with its holders. These agreements would be of various kinds, depending on the kind of partnership to be established, with forest management, biodiversity prospecting and information-sharing partnerships being the main options.

57. Certain common stumbling-blocks have emerged from the experience of countries that have sought to make such arrangements. In the process of deciding, for example, which areas of forest are truly uninhabited and which are not, there is the problem that the definition of forest habitation or use may not be one that is shared by both the nation and the claimants. The latter may consider that habitation is established because they have used the area for hunting, as a source of emergency food, as a place for initiating youngsters, as part of an extended fallow system, or as a resting place for their ancestors. Negotiations to settle such misunderstandings are inherently delicate and can be delayed by many factors.

58. The possession of TFRK can mean, for instance, that local people clearly distinguish places with different soil fertility, value as hunting grounds, or spiritual significance despite their superficial similarity. These factors may be completely lost on government negotiators who have only a general understanding of the location concerned. Other problems may arise from differences in perceived transaction costs between the two sides, for example when a government uses expensive senior officials to negotiate with local people who have a different sense of the value of the time spent negotiating. The idea of compensation may also be perceived differently by the two sides, since some cultures may see compensation in ritual terms as a fine to correct a spiritual imbalance rather than as a source of money. Evidence of respect paid by a government team to local people might in some other cases mean more to them than would a financial settlement alone.

59. Specific proposals have been made for establishing "an Ombudsman's Office that would not only advise indigenous and local communities on the protection of their resource rights and on benefit sharing, but represent them in their complaints relating to infringements of their resource rights" (WGTRR, 1996). Another option for facilitating settlements would be to create an arbitration and conciliation mechanism. The creation of such mechanisms would be helpful to groups seeking the fair and equitable settlement of conflicts of interest over forest and other resources.

60. Many forest areas have recently been occupied by settlers from urban or agricultural milieux who have been attracted by economic opportunities at the forest frontier or driven there by poverty or landlessness. Other new arrivals in a forest may have been displaced by development projects elsewhere. In any such case, the newcomers will have little or no TFRK that is useful in their new location. The sustainable use of a living resource depends on the number of users being limited by social rules to those who understand the resource well enough to be able to use it properly. Such rules are devised and such knowledge is accumulated in a particular place by a particular people. Suddenly replacing those people with others who lack appropriate rules and knowledge can result only in resource destruction, and this is indeed a major cause of undesirable forms of deforestation worldwide (Collins, Sayer and Whitmore, 1991; Sayer, Harcourt and Collins, 1992; Harcourt and Sayer, 1996; United Nations Environment Programme, 1995).

61. This major problem could be avoided if Governments were to adopt effective policies that discouraged colonization of forest frontiers or displacement of people from forest areas. Where new settlement has already occurred, however, and cannot be reversed, Governments could promote the education of settlers in how to live in their new environment without damaging it. This would create an important role for environmental education within communities on the forest frontier, and suggests that surviving traditional people in the area could have a vital role in showing newcomers how to live there sustainably. This has been proposed as a major need in Irian Jaya (Indonesian New Guinea), for example, where aboriginal peoples are now outnumbered by transmigrant settlers from elsewhere in Indonesia (WWF, 1995).

62. A constraint on the formulation of TFRK access agreements for biodiversity prospecting is the need for legal and other forms of technical advice by

Governments that are contemplating a policy framework and legal instrument, and by peoples who are trying to negotiate an equitable bioprospecting contract with commercial groups. The National Biodiversity Institute of Costa Rica (INBio) has a record of providing such advice on request (for example, to the Philippines and Indonesia) but neither INBio nor any other institution could be expected to do so on a large scale without additional resources to meet the demands on its staff and computing time (Caldecott and Lovejoy, in press). A well-funded international network of expert institutions and individuals (for example, United Nations University/United Nations Educational, Scientific and Cultural Organization (UNESCO) Chairs on TFRK) would go far to relieve this important constraint.

63. There are several obstacles to the sharing of information among the holders of different traditional knowledge systems, and among them and cosmopolitan forest managers and others. They include difficulties in translation among the many languages involved, a lack of common standards for storing, accessing and disseminating relevant information, and a lack of technology and training of the right kind to provide all TFRK holders with Internet access.

IV. CONCLUSIONS AND PROPOSALS FOR ACTION

64. The Panel at its second session (E/CN.17/1996/24) noted that a series of issues concerning the provision of technical, technological and scientific advice on traditional knowledge, innovations and practices of forest use and conservation merited further development (para. 88), identified matters that should be addressed (para. 89) and noted the need for the effective protection of indigenous rights and for the equitable sharing of benefits (para. 90). All these issues have been addressed above in sections I, II and III of this report. The Panel may wish to use section IV for guiding the debate on this item of the agenda and for identifying the most appropriate conclusions and proposals for action.

A. Meaning of traditional forest-related knowledge and property rights

65. TFRK can provide a strong basis for sustainable forest management for two main reasons. The first involves the quality of the information and interpretative systems possessed by local people after living in a forest for several-to-many generations and the second draws on the strength of their commitment to sustainable forest management that results from having such knowledge. This is relevant for qualitative aspects of forest assessment as considered in programme element III.1. (a).

66. The main obstacle to TFRK's being legally recognized as the common property of certain social groups is likely to be the difficulties involved in negotiating consensual agreements with a variety of groups identified as holders. International forums such as the Ad Hoc Intergovernmental Panel on Forests provide a unique opportunity for Governments that have taken this path to reassure others that TFRK is indeed useful in managing forests sustainably and in locating valuable new products, and that accessing it on fair and

equitable terms can only benefit each country in its efforts to achieve sustainable development.

67. Most TFRK will mean little outside the environment where it arises and is likely to be most valuable as a means to achieve on-site sustainable forest management. Since TFRK cannot reasonably be taken from people without their consent, and is the common property of distinct groups of people, this should be acknowledged by Governments and others who wish to use such knowledge. Of those forms of TFRK that do have meaning outside their place and culture of origin and potential usefulness to global society, some have no potential for commercial application, but are nevertheless the intellectual property of their holders.

68. It is recognized that there are three main areas in which TFRK access agreements seem necessary which may be described in the following terms:

(a) If forest-dwelling people are to be involved as other than labourers in managing the forests where they live (as must be the case if TFRK is to have a role), this should be based on partnership agreements. Since the use of any resource needs clarity concerning its holders, plans for its use, and management of that use, managing an inhabited forest will require holder, planning and management partnerships;

(b) If forest-dwelling people are to be involved in biodiversity prospecting (as they must be if TFRK is to be used to identify materials with commercial potential), this should be based on agreements that guarantee a fair return from any resulting commercial application;

(c) If forest-dwelling people are to share their ideas and experiences with others, this should be based on agreements that allow them to control the release of information and that acknowledge their contribution.

Proposals for action

* To invite Governments and TFRK-holding groups to consider entering into formal agreements by which TFRK can be accessed.

* To establish comprehensive approaches to intellectual property that allocate to the holders of traditional forest-related knowledge, innovations and practices, rights and protection comparable to those offered under existing intellectual property regimes.

B. Establishing partnerships

69. The most substantial contribution of TFRK is likely to be in defining sustainable forest management techniques at a local level.

70. For indigenous people, their communities and other communities and forest dwellers to participate fully in such partnership agreements and to offer their TFRK for the benefit of other interested parties, certain conditions will need to be met. Holders of TFRK will need to feel secure in their land tenure arrangements; reassured that they have been accorded status equal to that of the

other members of the partnerships; convinced of a common purpose compatible with their cultural and ecological values. Furthermore, any special needs regarding participation should be catered for.

Proposal for action

* To urge developed countries and international organizations to support capacity-building activities for creating partnership agreements for sustainable forest management with indigenous people, forest dwellers and local communities (including, for example, negotiation skills, understanding of the sustainable forest management agenda and outside interest in TFRK, legal support) and mechanisms for compensating the real costs of participation (forgone labour or social investments, as well as routine expenses).

C. Participatory approaches

71. Indigenous people, forest dwellers and local communities must play a key role in defining participatory approaches to forest and land management, including resource management institutions, land-use systems and conflict resolution. This fact is of paramount importance for the successful implementation of future activities in Panel programme elements I.1, I.2, I.4 and I.5. There is a growing body of literature on participatory methodologies and traditional knowledge, based in large part on direct project experience obtained by donor agencies, and non-governmental, indigenous and community organizations.

Proposals for action

* To urge Governments to promote and provide the opportunities for full participation of indigenous people, forest dwellers and local communities in forest and land management, consistent with principles 2 (d) and 5 (a) of the Forest Principles.

* To urge countries and international organizations to support the preparation of technical guidelines on TFRK application to assist national and local Governments on how such knowledge and experience can be brought together. These guidelines should focus on participatory partnerships to bring TFRK into the development, implementation and planning of local-level sustainable forest management, including areas such as legal and administrative frameworks, identification of interested parties, capacity-building for participants, structure and procedures of participatory bodies, conflict resolution mechanisms, compensatory mechanisms for community or non-professional participants, and options for storage and retrieval of TFRK.

* To urge countries to organize series of national, regional and international expert consultations for promoting establishment of TFRK partnerships and application of participatory planning methodologies. Experts would be identified from international agencies and donors, Governments, indigenous and local community organizations, researchers, non-governmental organizations, and others with direct experience of participatory projects involving TFRK.

D. Management of traditional forest-related knowledge

72. As has been noted throughout this report, there are difficulties surrounding the acquisition, storage, retrieval and dissemination of TFRK outside its place of origin. These difficulties reside in the nature of TFRK, overwhelmingly site- and culture-specific, and in the fact that most TFRK is not amenable to being digitized, stored in databases or accessed through clearing-house mechanisms. It is not clear to what extent TFRK originating in one ecological and cultural context can be made available for sustainable forest management purposes in another, nor what the real level of benefits might be. It seems reasonable to suppose that, if such exchanges are to take place, they will be more meaningful if they occur through face-to-face contact and verbal transmission rather than codified communication channels. The Panel may wish to explore further the feasibility and modalities of such exchanges.

Proposals for action

* To urge donors and international organizations to support the establishment of regional and national institutional systems dedicated to undertaking systematic studies on TFRK and to promote its wide understanding and use.

* To urge countries, national institutions and academic centres to incorporate TFRK in standard forest management training as a way to sensitize forest managers on how to access TFRK, on the benefits of using it and on the dangers of ignoring it.

* To encourage donors and international organizations to assist financially and support existing networks promoting sharing of TFRK among concerned groups and institutions in collaboration with involved indigenous people.

* To promote digital mapping (using GIS and GPS) combined with social mapping for establishing forest holding; assist planning and management partnerships; and assist in the location of cultural and geographical information required to support sustainable forest management schemes.

E. Prospecting biodiversity and sharing of benefits

73. Those aspects of TFRK that may assist in the identification of new products with commercial value fall within the purview of the Convention on Biological Diversity, since TFRK is a subset of the "knowledge, innovations and practices" referred to in article 8 (j) of the Convention and the genetic resources of forest ecosystems are a subset of the genetic resources referred to in article 15. The Panel will note that the Conference of the Parties to the Convention will consider at its third meeting, inter alia:

(a) Possible options for developing national legislative, administrative or policy measures, as appropriate to implement article 15 (Access to Genetic Resources);

(b) Impact of intellectual property rights systems on the conservation and sustainable use of biological diversity and the equitable sharing of benefits

derived from its use in order to gain a better understanding of the implications of article 16 (Access to and Transfer of Technology), paragraph 5;

(c) Knowledge, innovations and practices of indigenous and local communities: implementation of article 8 (j).

Proposal for action

* The Panel may wish to consider ways and means to incorporate the results of the consideration of these issues by the Conference of the Parties to the Convention on Biological Diversity into its conclusions, and proposals for action to the Commission on Sustainable Development.

F. Traditional forest-related knowledge and indigenous people

74. The terms of reference for this programme element identify "forest dwellers, indigenous people and other local communities". Principle 5 (a) of the Forest Principles states: "National forest policies should recognize and duly support the identity, culture and the rights of indigenous people, their communities and other communities and forest dwellers." The recognition of the identity, culture and rights of indigenous people and their communities has been accorded specific priorities and processes within the United Nations system.

Proposals for action

* Recalling the need to take account of other relevant intergovernmental processes, the Panel may also wish to note the ongoing consideration of relevant matters within the Commission on Human Rights, in particular its consideration of:

(a) Report of the Special Rapporteur on the protection of the heritage of indigenous people (E/CN.4/Sub.2/1995/26);

(b) Technical review of the United Nations Draft Declaration on the Rights of Indigenous Peoples (E/CN.4/Sub.2/1994/2/Add.1);

(c) Report of the Working Group on Indigenous Populations on its thirteenth session: consideration of a permanent forum for indigenous people (E/CN.4/Sub.2/1995/24, sect. VII).

* The Panel will recall that chapter 26 of Agenda 21 contains a programme for recognizing and strengthening the role of indigenous people and their communities. Much of the material in that chapter is of direct relevance to this programme element and the Panel may wish to refer to its recommendations.

Notes

1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex III.

2/ Ibid., annex II.

3/ See United Nations Environment Programme, Convention on Biological Diversity (Environmental Law and Institution Programme Activity Centre), June 1992.

4/ See Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), chap. I, sect. D, annex I, sect. III.

5/ See A Call to Action: Decisions and Ministerial Statement from the Second Meeting of the Conference of the Parties to the Convention on Biological Diversity, Jakarta, Indonesia, 6-17 November 1995 (UNEP, January 1996), decision II/9.

6/ See Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, done at Marrakesh on 15 April 1994 (GATT secretariat publication, Sales No. GATT/1994-7).

7/ See Report of the Conference of FAO, Twenty-fifth Session, Rome, 11-29 November 1989 (C 89/REP) (Rome, FAO, 1989), para. 108.

8/ See Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), chap. I, sect. D, para. 200.

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Annex

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